### Golder Associates Inc.

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### SOIL VAPOR INVESTIGATION

### SAUGET AREA 1 SAUGET, ILLINOIS

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### 1.0 INTRODUCTION

This report summarizes the Soil Vapor Intrusion Investigation (SVII) activities performed at the Area 1 site in Sauget, Illinois. The SVII work was performed in accordance with the Sauget Area 1 Soil Vapor Intrusion Investigation Work Plan that was approved by the U.S. Environmental Protection Agency (USEPA). The deviations from the Work Plan are identified and discussed in the report.

Soil vapor sampling was carried out around four structures within the Sauget Area 1 site between November 29<sup>th</sup> to December 11<sup>th</sup>, 2006 (Figure 1). Field work was delayed from November 30<sup>th</sup> to December 4<sup>th</sup> due to wet weather conditions. Sampling was suspended in accordance with the Work Plan and with USEPA guidance documents recommending that soil vapor sampling should not be performed following heavy precipitation because of the potential to draw soil moisture into the sampling container during purging and sampling. The sampling activities included soil vapor samples from three locations at the Sauget Village Hall (Figure 2); three locations at the Wiese, Inc. facility (Figure 3); one location at a guard shack at the entrance to the Cerro Flow Products, Inc. container storage area (Figure 4); and three locations at the Cerro Flow Products, Inc. Control Center (Figure 5). The soil vapor sampling probes were installed within fifteen feet of exterior building walls at each of the selected locations. This report summarizes the work performed during the SVII, and includes attached figures, tables and appendices.

### 2.0 SOIL VAPOR SAMPLING ACTIVITIES

### 2.1 Soil Vapor Probe Installation

Soil vapor probes were installed using an Art's Manufacturing & Supply, Inc. (AMS, Inc.) Gas Vapor Probe (GVP) kit. Teflon® tubing (3/16<sup>th</sup>-inch inner diameter) was threaded through a 5/8<sup>th</sup>-inch inner diameter steel drive tube and attached to a dedicated GVP tip prior to probe advancement. If pavement was present at the vapor probe location, an electric rotary impact hammer with concrete bit was used to drill through the pavement. A manual slide hammer was then used to advance the vapor probes to the desired sampling depths for each vapor probe location (Table 1). Once the desired depth was reached, the steel drive tubes were retracted out of the ground using a mechanical jack. Care was taken not to disturb the connection between the tubing and GVP tip by keeping constant downward force on the Teflon tubing as the steel drive tubes were retracted.

Once the drive tubes were retracted, the annulus around the GVP tip and tubing were backfilled with approximately six inches of clean silica sand to cover the tip. The remainder of the annulus was then backfilled with granular bentonite and hydrated with potable water for at least 20 minutes. A surface seal of hydrated bentonite was constructed at each vapor probe location in order to prevent atmospheric air entry into the sampling tube during purging and sampling. Photo documentation of each sample location is attached as Appendix A.

Upon installation of the probe, a certified clean valve with  $3/16^{th}$ -inch hose barbs was attached to the end of the tubing in order to prevent exposure to the atmosphere. A clear plastic tote was used as a shroud for helium leak testing and placed over each vapor probe location. Hydrated bentonite was used to create a seal between the shroud and the ground surface surrounding the probe. Once the bentonite was hydrated for at least 20 minutes, purging and leak testing of the sampler assembly commenced.

### 2.2 Purging and Leak Testing

Following installation, each probe sampling point and associated tubing was purged by removing three probe volumes at a rate of 100 ml/min using a Gillian® GilAir-3 sample pump with a low-flow module. A probe volume was calculated as the volume enclosed in the used length of  $3/16^{th}$ -inch inner diameter tubing for a given vapor probe location. All probe volumes and purge durations were noted on sample collection forms (Appendix C). Once two probe volumes were purged from the sample train, a third probe volume was purged during helium leak testing.

During leak testing, ultra-high purity helium was pumped into the clear plastic tote around the vapor probe location. Helium concentrations were monitored using a Dielectric® MGD-2002 helium detector which has a detection range of 15 ppm to 1,000,000 ppm (100%) helium. Once a helium atmosphere of at least 50 percent was reached, the helium detector probe was inserted into the exhaust port of the Gilian® GilAir-3 air sampling pump. A third

and final probe volume was purged from the sample train while monitoring helium concentrations in the purged air. Helium concentrations measured in the purged air from each probe were below the 5% helium detection level and, therefore, soil vapor sampling at each vapor probe location was commenced immediately following helium leak testing.

### 2.3 Soil Vapor Sampling

Following successful helium leak testing, a dedicated six-liter Summa<sup>®</sup> canister and corresponding flow controller were used for sampling at each vapor probe location. Serial numbers were recorded on the sample collection form (Appendix B). The brass cap of the Summa canister was removed and the vacuum was checked in order to confirm a vacuum pressure greater than 25 inches of mercury prior to sampling. Once sufficient vacuum was confirmed, the Summa canister and corresponding flow controller were attached to each other with laboratory-supplied stainless steel Swagelok<sup>®</sup> fittings. Next, the sample train was attached to the flow controller and Summa canister with stainless steel Swagelok<sup>®</sup> fittings provided by the laboratory. Once all fittings were firmly tightened, the certified clean valve and the Summa<sup>®</sup> canister valve were opened.

An initial vacuum and a sampling start time for each location were recorded on a sample collection form (Appendix B). Canister vacuum and general observations were noted on the sample collection form every ten minutes until the vacuum gauge indicated five inches of mercury remaining. At that point, the Summa<sup>®</sup> canister was closed, the brass cap was replaced on the canister, and the sample end time and final vacuum were noted on the sample collection form.

An equipment blank and a field duplicate sample were collected as quality assurance/quality control (QA/QC) samples. Laboratory supplied stainless steel Swagelok® fittings were used to assemble the sample trains for both the Field Duplicate and Equipment Blank. The field duplicate was collected at sampling point SV-7 using a laboratory supplied stainless steel tee which split the soil vapor flow between two Summa® canisters simultaneously. When the vacuum gauge on the SV-7 probe and the duplicate both read five inches of mercury, each sample was separated. The equipment blank was collected at sampling location SV-4 using laboratory-supplied Zero Air as the sample vapor, a 2.5 feet length of Teflon® tubing, and a laboratory supplied certified clean valve in the sample train. Three probe volumes were purged from the equipment blank sample train prior to sampling. The certified clean valve and Summa® canister were then opened and initial vacuum and sample time were recorded on the sample collection form. Vacuum readings were recorded every 10 minutes until the Summa® canister vacuum was five inches mercury. Final vacuum and end sample time were then recorded on the sample collection form (Appendix B).

Each sample Summa<sup>®</sup> canister was listed on a chain of custody and packed on-site following standard chain-of-custody protocols. The samples were shipped overnight to Air Toxics Ltd. via Federal Express for T0-15 Modified Hi-Lo analyses, per the Work Plan.

After sampling was performed at each location, the sample train tubing was pulled from the ground and the remaining hole was backfilled with bentonite which was then hydrated. The surface was then restored with the original materials (soil, concrete or asphalt). All non-dedicated sampling equipment (e.g., probe rods) was decontaminated between sample locations with Liquinox® and distilled water and allowed to dry after rinsing. All used decontamination water was stored in 55-gallon drums and taken to Site R investigation derived waste storage area.

### 3.0 SOIL VAPOR SAMPLE RESULTS

The ten soil vapor samples and two associated QA/QC samples were analyzed by Air Toxics Ltd. for VOCs (USEPA Method TO-15 Modified Hi/Lo Full Scan). Data validation was performed following the requirements of Section 4.0 of the *Sampling and Analysis Plan/Quality Assurance Plan for Sauget Area 1 Soil Vapor Investigation* included in the Work Plan. There were some minor concerns that required the qualification of some data:

- Several constituents were detected in the equipment blank sample. As a result, professional judgment was used to qualify detections of these constituents in the investigative samples. When so detected, positive results less than 5 times the concentration detected in the blank sample were qualified as estimated values (J).
- Laboratory control samples (LCS) are generated to provide information on the accuracy of method and laboratory performance. Various VOC compounds were above the acceptance limits for the LCS. As a result, positive results were qualified as estimated values (J).

There were no major concerns which required the rejection of data. However, Air Toxics Ltd. advised Golder of an instrumentation error on the low level scan for sample SV-2. The laboratory indicated that SV-2 had been loaded incorrectly on the analytical instrumentation and that low level results for this sample could not be provided. As a result, work orders 0611634 A & B were re-issued by the laboratory.

Sample SV-3 contained concentrations of analytes that were too high for low level analysis. Sample dilutions were necessary in samples SV-1, SV-2, SV-3 and SV-8 due to high levels of target analytes and matrix interference. As a result, reporting limits for SV-1, SV-2, SV-3 and SV-8 were higher than the limits shown in Table C-4 of the *Work Plan*. A summary of validated analytical results is included in Table 2, and laboratory analytical reports are attached as Appendix C.

### 4.0 SIGNATURES

Please contact us if you have any questions regarding this work or require additional information.

Sincerely,

### GOLDER ASSOCIATES INC.

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# TABLES

**Golder Associates Inc.** 

### **Soil Vapor Sample Location Summary Soil Vapor Sampling Investigation** Sauget Area 1 Sauget, Illinois

		Sample	Sample Depth	
Sample Name	Sample Location	Date	(ft BGS <sup>1</sup> )	Samplers
SV-1	Wiese Inc.	11/29/2006	5.1	JCW/MNH
SV-2	Wiese Inc.	11/29/2006	5.0	JCW/MNH
SV-3	Wiese Inc.	12/4/2006	5.0	JCW/MRF
SV-4	Cerro Flow Inc.	12/11/2006	5.1	JCW/MRF
SV-5	Cerro Flow Inc.	12/5/2006	0.8	JCW/MRF
SV-6	Cerro Flow Inc.	12/5/2006	1.3	JCW/MRF
SV-7	Cerro Flow Inc.	12/6/2006	1.8	JCW/MRF
SV-8	Sauget Village Hall	12/9/2006	11.1	JCW/SRS
SV-9	Sauget Village Hall	12/9/2006	11.1	JCW/SRS
SV-10	Sauget Village Hall	12/9/2006	11.0	JCW/SRS

<sup>&</sup>lt;sup>1</sup> - BGS; below ground surface <sup>2</sup> - JCW - Justin White

<sup>&</sup>lt;sup>3</sup> - MRF - Matt Foresman

<sup>&</sup>lt;sup>4</sup> - MNH - Mark Haddock

# Table 2 Summary of Soil Vapor Analytical Detections Soil Vapor Sampling Investigation Sauget Area 1 Sauget, Illinois

Sample Location  Date Sampled		SV-1 11/29/200	Rpt. Limit	SV-2 11/29/20	Rpt. Limit	SV-3 12/4/2006	Rpt. Limit	SV-4 12/11/2006	Rpt. Limit	SV-5 12/5/200	Rpt. Limit	SV-6 12/5/200	L	Rpt. Limit
Time Sampled		12:08	<b>-</b>	15:48	-	13:22		12:48		13:15	<u> </u>	16:32	-	
Dilution Factor		80.5		26.8		397		1.49		1.55		1.44		
TO-15 Modified Hi/Lo Full Scan														
Analyte Freon 12	CAS No. 75-71-8	(pp	<b>bv)</b>	<13	pbv) 13	<200	200	(ppbv) 0.49	0.15	0.53	0.16	0.57	pbv)	).14
Freon 114	76-14-2	<40	40	<13	13	<200	200	<0.15	0.15	<0.16	0.16	<0.14		).14
Chloromethane	74-87-3	<160	160	<54	54	<790	790	0.20	0.15	0.27	0.16	0.22		0.14
Vinyl Chloride	75-01-4	9100	40	1200	13	9400	200	<0.15	0.15	<0.16	0.16	3.0	0	).14
1,3-Butadiene	106-99-0	<40	40	<13	13	<200	200	2.5	0.15	0.22	0.16	<0.14		).14
Bromomethane	74-83-9	<40	40	<13	13	<200	200	<0.15	0.15	<0.16	0.16	<0.14		).14
Chloroethane Freon 11	75-00-3 75-69-4	<40 <40	40	<13 <13	13	<200 <200	200	0.28 J 0.28 J	0.15	<0.16 <b>0.17</b>	0.16 J 0.16	<0.14 <b>0.27</b>		0.14
Ethanol	64-17-5	<160	160	<54	54	<790	790	<0.74	0.74	1.0	J 0.78	1.2		).72
Freon 113	76-13-1	<40	40	<13	13	<200	200	0.20	0.15	<0.16	0.16	0.18		).14
1,1-Dichloroethene	75-35-4	<40	40	<13	13	<200	200	<0.15	0.15	<0.16	0.16	0.26		).14
Acetone	67-64-1	<160	160	<54	54	<790	790	15 J	0.74	8.7	J 0.78	6.2		).72
2-Propanol	67-63-0	<160	160	<54	54	<790 <b>260</b>	790	<0.74 35	0.74	<0.78	0.78	1.0		0.72
Carbon disulfide  Methylene Chloride	75-15-0 75-09-2	<40 <40	40	<13 <13	13	<200	200	<0.30	0.74	<0.78	0.78	<0.72		0.72
Methyl tert-Butyl Ether	1634-04-4		JJ 40	<13	UJ 13	<200	200	<0.15 UJ	0.15	<0.16	0.16	<0.14		).14
trans-1,2-Dichloroethene	156-60-5	78	40	<13	13	<200	200	<0.15	0.15	<0.16	0.16	<0.14	0	).14
Hexane	110-54-3	960	40	2200	13	2200	200	25	0.15	3.8	0.16	0.23		).14
1,1-Dichloroethane	75-34-3	<40	40	<13	13	<200	200	1.7	0.15	<0.16	0.16	5.5		).14
2-Butanone (Methyl Ethyl Ketone)	78-93-3	<40 2800	40	<13 <b>51</b>	13	<200 2500	200	2.8 J	0.15	0.78	J 0.16	0.76 25		).14
cis-1,2-Dichloroethene	156-59-2 109-99-9	<40	40	<13	13	<200	200	<0.15 <0.74	0.15	<0.16 <0.78	0.16	<0.72		0.14
Tetrahydrofuran Chloroform	67-66-3	<40 <40	40	<13	13	<200	200	<0.74	0.74	<0.78 <b>4.1</b>	0.78	0.68		).72
1,1,1-Trichloroethane	71-55-6	<40	40	<13	13	<200	200	3.6	0.15	0.58	0.16	9.9		0.14
Cyclohexane	110-82-7	260	40	530	13	760	200	16	0.15	1.8	0.16	0.35	0	).14
Carbon Tetrachloride	56-23-5	<40	40	<13	13	<200	200	<0.15	0.15	<0.16	0.16	<0.14		).14
2,2,4-Trimethylpentane	540-84-1	N/A	N/A	N/A	N/A	4600	200	N/A	N/A	N/A	N/A	N/A		N/A
Benzene 1.2-Dichloroethane	71-43-2 107-06-2	920 N/A	40 N/A	240 <13	13	<b>13000</b> <200	200	8.2 N/A	0.15 N/A	1.1 N/A	J 0.16 N/A	0.42 N/A		0.14 N/A
Heptane	142-82-5	190	40	650	13	500	200	7.1	0.15	2.0	0.16	0.28		).14
Trichloroethene	79-01-6	N/A	N/A	64	13	1800	200	N/A	N/A	N/A	N/A	N/A		N/A
1,2-Dichloropropane	78-87-5	<40	40	<13	13	<200	200	<0.15	0.15	<0.16	0.16	<0.14	0	).14
1,4-Dioxane	123-91-1	<160	160	<54	54	<790	790	<0.15	0.15	<0.16	0.16	<0.14	0	).14
Bromodichloromethane	75-27-4	<40	40	<13	13	<200	200	<0.15	0.15	<0.16	0.16	<0.14		).14
cis-1,3-Dichloropropene 4-Methyl-2-pentanone	10061-01-5 108-10-1	<40 <40	40	<13 <13	13	<200 <200	200	<0.15 <b>0.61</b> J	0.15	<0.16 <b>0.23</b>	0.16 J 0.16	<0.14		).14 ).14
Toluene	108-88-3	76	40	82	13	7200	200	8.7	0.15	2.7	0.16	7.7		0.14
trans-1,3-Dichloropropene	10061-02-6	<40	40	<13	13	<200	200	<0.15	0.15	<0.16	0.16	<0.14		0.14
1,1,2-Trichloroethane	79-00-5	<40	40	<13	13	<200	200	<0.15	0.15	<0.16	0.16	<0.14		).14
Tetrachloroethene	127-18-4	130	40	56	13	5700	200	0.28	0.15	<0.16	0.16	31		).14
2-Hexanone	591-78-6	<160	160	<54	54	<790	790	<0.74	0.74	<0.78	0.78	<0.72		).72
Dibromochloromethane 1,2-Dibromoethane (EDB)	124-48-1 106-93-4	<40 N/A	40 N/A	<13 <13	13	<200 <200	200	<0.15 N/A	0.15 N/A	<0.16 N/A	0.16 N/A	<0.14 N/A		0.14 N/A
Chlorobenzene	108-90-7	340	40	1600	13	70000	200	<0.15	0.15	<0.16	0.16	<0.14		).14
Ethylbenzene	100-41-4	<40	40	61	13	680	200	1.3	0.15	0.73	0.16	0.87		).14
m,p-Xylene	108-38-3/106-42-3	<40	40	76	13	640	200	2.0 J	0.15	0.84	J 0.16	2.4		).14
o-Xylene	95-47-6	<40	40	37	13	210	200	0.83 J	0.15	0.31	J 0.16	0.59		).14
Styrene	100-42-5	<40	40	<13	13	<200	200	0.22	0.15	<0.16	0.16	<0.14		).14
Bromoform Cumene	75-25-2 98-82-8	<40 <40	40	<13 <13	13	<200 <200	200	<0.15 <0.15	0.15	<0.16	0.16	<0.14		0.14
1,1,2,2-Tetrachloroethane	79-34-5	N/A	N/A	<13	13	<200	200	N/A	N/A	N/A	N/A	N/A		N/A
Propylbenzene	103-65-1	<40	40	<13	13	<200	200	0.14 J	0.15	<0.16	0.16	<0.14		).14
4-Ethyltoluene	622-96-8	<40	40	16	13	<200	200	0.49 J	0.15	0.15	J 0.16	0.30		).14
1,3,5-Trimethylbenzene	108-67-8	<40	40	<13	13	<200	200	0.45	0.15	0.20	0.16	0.24		).14
1,2,4-Trimethylbenzene	95-63-6	<40	40	<13	13	<200	200	0.85 J	0.15	0.30	J 0.16	0.53		).14
1,3-Dichlorobenzene 1.4-Dichlorobenzene	541-73-1 106-46-7	82 180	40	<13 100	13	600 6900	200	<0.15 <0.15	0.15	<0.16	0.16	<0.14		0.14
alpha-Chlorotoluene	100-44-7	<40	40	<13	13	<200	200	<0.15	0.15	<0.16	0.16	<0.14		).14
1,2-Dichlorobenzene	95-50-1	<40	40	300	13	8100	200	<0.15	0.15	<0.16	0.16	<0.14		0.14
1,2,4-Trichlorobenzene	120-82-1	<160	160	170	54	<790	790	<0.74	0.74	<0.78	0.78	<0.72	0	).72
Hexachlorobutadiene	87-68-3	<160	160	<54	54	<790	790	<0.74	0.74	<0.78	0.78	<0.72		).72
Naphthalene	91-20-3	<160	160	3200	D 640	<790	790	21 J	0.74	<0.78	0.78	<0.72		).72
1,1,1,2-Tetrachloroethane	630-20-6	<160	160	<54 <54	54 54	<790	790 790	<0.74	0.74	<0.78	0.78	<0.72	0	).72 ).72
1,2,3-Trichloropropane Acetonitrile	96-18-4 75-05-8	<160 <400	160 400	<130	130	<790 <2000	2000	<0.74	0.74	<0.78	0.78	<0.72		0.72
Butylbenzene	104-51-8	<160	160	<54	54	<790	790	<0.74	0.74	0.97	0.78	1.7		).72
Dibromomethane	74-95-3	<160	160	<54	54	<790	790	<0.74	0.74	<0.78	0.78	<0.72	0	).72
Ethyl Acetate	141-78-6	<160	160	<54	54	<790	790	<0.74	0.74	<0.78	0.78	<0.72	0	).72
sec-Butylbenzene	135-98-8	<160	160	<54	54	<790	790	<0.74	0.74	<0.78	0.78	<0.72		).72
Vinyl Acetate	108-05-4	<160	160	<54	54	<790	790	<3.0	3.0	<3.1	3.1	<2.9	1 1 2	2.9
TO-15 Low Level Dilution Factor		16	:1	N	V/A	N.	/A	1.49		1	55	1	.44	
Trichloroethene	79-01-6	72	0.32	N/A	N/A	N/A	N/A		0.030	20	0.031	22		.029
1,2-Dichloroethane	107-06-2	<0.32	0.32	N/A	N/A	N/A	N/A	<0.030	0.030	<0.031	0.031	<0.029	0.	.029
1,2-Dibromoethane (EDB)	106-93-4	<0.32	0.32	N/A	N/A	N/A	N/A		0.030	<0.031	0.031	<0.029		.029
1,1,2,2-Tetrachloroethane	79-34-5	< 0.32	0.32	N/A	N/A	N/A	N/A	< 0.030	0.030	<0.031	0.031	< 0.029	0.	.029

Results in **bold** denote detections.
The Duplicate is associated with SV-7.
Flags and Qualifiers
J - Result is an estimated value.
N/A - Not analyzed.
UJ - Estimated reporting limit.
D - Diluted sample

Checked by: JAP Date: 1/25/2007 Reviewed by: MNH Date: 1/25/2007

# Table 2 Summary of Soil Vapor Analytical Detections Soil Vapor Sampling Investigation Sauget Area 1 Sauget, Illinois

Sample Location Date Sampled		SV-7 12/6/200	Li	pt. mit	SV-8 12/9/2006		Rpt. Limit	SV-9 12/9/20		SV-10 12/9/20	06	Rpt. Limit	Equipme Blank 12/11/20		Rpt. Limit	Duplica 12/6/20		Rpt. Limit
Time Sampled Dilution Factor		11:29 1.58			11:24	L.		14:46	·	16:54 1.46		L	12:30 1.52			11:29		L
TO-15 Modified Hi/Lo Full Scan		1.56		_	4.97			1.40		1.40			1.52			1.01		
Analyte	CAS No.	(pp	obv)		(ppb	v)		(p	pbv)		opbv	)	(p	pbv	)	(r	pbv	)
Freon 12	75-71-8	0.56	0.	16	<0.50		0.50	0.48	0.15	0.56		0.15	<0.15		0.15	0.60		0.16
Freon 114	76-14-2	<0.16		16	<0.50		0.50	<0.15	0.15	<0.15	╄	0.15	<0.15	Ш	0.15	<0.16	₩	0.16
Chloromethane Vinyl Chloride	74-87-3 75-01-4	<b>0.18</b> <0.16		16 16	0.54		0.50	<b>0.44</b> <0.15	0.15	<b>0.41</b> <0.15	-	0.15	<0.15 <0.15	Н	0.15	<0.16	⊢	0.16
1,3-Butadiene	106-99-0	<0.16		16	1.3		0.50	4.3	0.15	3.8	+	0.15	<0.15	Н	0.15	<0.16	⊢	0.16
Bromomethane	74-83-9	<0.16		16	<0.50		0.50	<0.15	0.15	<0.15	t	0.15	<0.15	H	0.15	<0.16	t	0.16
Chloroethane	75-00-3	<0.16		16	<0.50		0.50	<0.15	0.15	<0.15		0.15	<0.15	П	0.15	<0.16	T	0.16
Freon 11	75-69-4	0.26		16	<0.50		0.50	0.28	0.15	0.38	J	0.15	0.17		0.15	0.24	J	0.16
Ethanol	64-17-5	1.7		79	35		2.5	2.1	J 0.73	4.2	J	0.73	5.4	Ш	0.76	1.8	J	0.80
Freon 113	76-13-1	<0.16		16	<0.50		0.50	<0.15	0.15	0.15	-	0.15	<0.15	Н	0.15	<0.16	$\vdash$	0.16
1,1-Dichloroethene Acetone	75-35-4 67-64-1	<0.16	J 0.	16 70	<0.50 37 J		0.50 2.5	<0.15 <b>43</b>	J 0.15	<0.15 <b>39</b>	J	0.15	<0.15 <b>16</b>	H	0.15	<0.16	J	0.16
2-Propanol	67-63-0	<0.79		79	2.8 J		2.5	<0.73	0.73	0.93	J	0.73	7.5	H	0.76	<0.80	1	0.80
Carbon disulfide	75-15-0	1.1		79	8.9 J		2.5	5.6	J 0.73	7.1	J	0.73	2.1	П	0.76	<0.80	$^{\dagger}$	0.80
Methylene Chloride	75-09-2	< 0.32	0.	32	44		0.99	1.7	0.29	1.7		0.29	<0.30		0.30	< 0.32		0.32
Methyl tert-Butyl Ether	1634-04-4	<0.16		16	<0.50		0.50	<0.15	0.15	<0.15		0.15	<0.15	UJ	0.15	<0.16		0.16
trans-1,2-Dichloroethene	156-60-5	<0.16		16	<0.50		0.50	<0.15	0.15	<0.15	-	0.15	<0.15	Ш	0.15	<0.16	╄	0.16
Hexane	110-54-3	2.5		16	140	-	0.50	9.4	0.15	6.0	₩	0.15	<0.15	Н	0.15	2.6	+-	0.16
1,1-Dichloroethane 2-Butanone (Methyl Ethyl Ketone)	75-34-3 78-93-3	<0.16 <b>0.81</b>		16 16	<0.50 9.9 J		0.50	<0.15 <b>7.9</b>	J 0.15	<0.15 <b>3.6</b>	J	0.15	<0.15 2.2	Н	0.15	<0.16 <b>0.74</b>	╁	0.16
cis-1,2-Dichloroethene	156-59-2	<0.16		16	<0.50		0.50	<0.15	0.15	<0.15	J	0.15	<0.15	Н	0.15	<0.16	- 0	0.16
Tetrahydrofuran	109-99-9	<0.79		79	<2.50		2.5	<0.73	0.73	<0.73	t	0.73	<0.76	Н	0.76	<0.80	t	0.80
Chloroform	67-66-3	<0.16		16	<0.50		0.50	<0.15	0.15	<0.15		0.15	<0.15		0.15	<0.16	T	0.16
1,1,1-Trichloroethane	71-55-6	<0.16		16	<0.50		0.50	<0.15	0.15	<0.15		0.15	<0.15		0.15	<0.16		0.16
Cyclohexane	110-82-7	1.5		16	160		0.50	3.8	0.15	1.0	L	0.15	<0.15	Ш	0.15	1.5	╄	0.16
Carbon Tetrachloride	56-23-5	<0.16		16	<0.50		0.50	<0.15	0.15	0.15	J	0.15	<0.15	Н	0.15	<0.16		0.16
2,2,4-Trimethylpentane	540-84-1	N/A		/A	N/A		N/A	N/A	N/A	N/A	-	N/A	N/A	Н	N/A	N/A	J	N/A
Benzene 1,2-Dichloroethane	71-43-2 107-06-2	0.65 N/A		16 /A	4.8 N/A		0.50 N/A	7.6 N/A	0.15 N/A	7.4 N/A	+	0.15 N/A	0.43 N/A	Н	0.15 N/A	0.54 N/A	J	0.16 N/A
Heptane	142-82-5	1.2		16	18		0.50	5.0	0.15	5.5	t	0.15	<0.15	Н	0.15	1.2	$^{+}$	0.16
Trichloroethene	79-01-6	N/A		/A	N/A		N/A	N/A	N/A	N/A		N/A	N/A	П	N/A	N/A	$^{\dagger}$	N/A
1,2-Dichloropropane	78-87-5	<0.16	0.	16	<0.50	-	0.50	<0.15	0.15	<0.15		0.15	<0.15		0.15	<0.16	Т	0.16
1,4-Dioxane	123-91-1	<0.16	0.	16	<0.50		0.50	<0.15	0.15	<0.15	L	0.15	<0.15		0.15	<0.16	L	0.16
Bromodichloromethane	75-27-4	<0.16		16	<0.50		0.50	<0.15	0.15	<0.15	-	0.15	<0.15	Ш	0.15	<0.16	-	0.16
cis-1,3-Dichloropropene	10061-01-5	<0.16		16	<0.50	-	0.50	<0.15	0.15	<0.15	╄	0.15	<0.15	Н	0.15	<0.16		0.16
4-Methyl-2-pentanone Toluene	108-10-1 108-88-3	<0.16 <b>1.0</b>		16	<0.50		0.50	<0.15 <b>21</b>	0.15	<0.15 23	┢	0.15	0.16	Н	0.15	<0.16 1.1	J	0.16
trans-1,3-Dichloropropene	10061-02-6	<0.16		16 16	<b>35</b> <0.50		0.50	<0.15	0.15	<0.15	+-	0.15	<b>0.33</b> <0.15	Н	0.15	<0.16	1	0.16
1,1,2-Trichloroethane	79-00-5	<0.16		16	<0.50		0.50	<0.15	0.15	<0.15	+	0.15	<0.15	Н	0.15	<0.16	$^{\dagger}$	0.16
Tetrachloroethene	127-18-4	<0.16		16	0.91		0.50	1.2	0.15	1.6	Т	0.15	<0.15	П	0.15	<0.16	T	0.16
2-Hexanone	591-78-6	<0.79		79	<2.50	L	2.5	< 0.73	0.73	<0.73		0.73	<0.76		0.76	<0.80		0.80
Dibromochloromethane	124-48-1	<0.16		16	<0.50		0.50	<0.15	0.15	<0.15		0.15	<0.15	Ш	0.15	<0.16	_	0.16
1,2-Dibromoethane (EDB)	106-93-4	N/A		/A	N/A		N/A	N/A	N/A	N/A	-	N/A	N/A	Ш	N/A	N/A	ـ	N/A
Chlorobenzene	108-90-7	<0.16		16	140		0.50	0.28	0.15	<0.15	-	0.15	<0.15	J	0.15	<0.16		0.16
Ethylbenzene m,p-Xylene	100-41-4 108-38-3/106-42-3	0.38		16 16	6.0		0.50	2.9 9.7	0.15	2.5 8.9	╁	0.15	0.14	J	0.15	0.32	J	0.16
o-Xylene	95-47-6			16	2.9		0.50	3.3	0.15	3.0	<del> </del>	0.15	0.17	H	0.15	0.15	J	0.16
Styrene	100-42-5	<0.16		16	0.64		0.50	0.66	0.15	0.65		0.15	<0.15	П	0.15	<0.16	Ť	0.16
Bromoform	75-25-2	<0.16	0.	16	<0.50		0.50	<0.15	0.15	<0.15		0.15	<0.15		0.15	<0.16	T	0.16
Cumene	98-82-8	<0.16		16	1.4		0.50	0.40	0.15	0.29		0.15	<0.15		0.15	<0.16		0.16
1,1,2,2-Tetrachloroethane	79-34-5	N/A		/A	N/A	-	N/A	N/A	N/A	N/A	<u> </u>	N/A	N/A	Ш	N/A	N/A	<u> </u>	N/A
Propylbenzene	103-65-1	<0.16		16	0.79		0.50	0.47	0.15	0.56	┼	0.15	<0.15	Н	0.15	<0.16	┼	0.16
4-Ethyltoluene 1,3,5-Trimethylbenzene	622-96-8 108-67-8	<0.16 <b>0.17</b>		16 16	0.83		0.50	1.0	0.15 0.15	0.86	-	0.15	<b>0.17</b> <0.15	Н	0.15 0.15	<0.16 <b>0.19</b>	$\vdash$	0.16
1.2.4-Trimethylbenzene	95-63-6			16	2.8		0.50	3.2	0.15	3.2	+-	0.15	0.26	Н	0.15	0.19	+	0.16
1,3-Dichlorobenzene	541-73-1	<0.16		16	1.5		0.50	<0.15	0.15	<0.15	+	0.15	<0.15	П	0.15	<0.16	$^{\dagger}$	0.16
1,4-Dichlorobenzene	106-46-7	<0.16		16	7.5		0.50	0.16	0.15	<0.15		0.15	<0.15	П	0.15	<0.16		0.16
alpha-Chlorotoluene	100-44-7	<0.16		16	<0.50		0.50	<0.15	0.15	<0.15		0.15	<0.15		0.15	<0.16		0.16
1,2-Dichlorobenzene	95-50-1	<0.16		16	0.61		0.50	0.44	0.15	<0.15	_	0.15	<0.15	Ш	0.15	<0.16	_	0.16
1,2,4-Trichlorobenzene	120-82-1	<0.79		79	<2.5		2.5	<0.73	0.73	<0.73	-	0.73	<0.76	Н	0.76	<0.80	-	0.80
Hexachlorobutadiene Naphthalene	87-68-3 91-20-3	<0.79 <0.79		79 79	<2.5 <2.5		2.5	<0.73 <0.73	0.73	<0.73	+	0.73	<0.76 <0.76	Н	0.76	<0.80	+-	0.80
1.1.1.2-Tetrachloroethane	630-20-6	<0.79		79	<2.5		2.5	<0.73	0.73	<0.73	+-	0.73	<0.76	Н	0.76	<0.80	+	0.80
1,2,3-Trichloropropane	96-18-4	<0.79		79	<2.5		2.5	<0.73	0.73	<0.73	$\vdash$	0.73	<0.76	Н	0.76	<0.80	+	0.80
Acetonitrile	75-05-8	<0.79		79	<2.5		2.5	<0.73	0.73	<0.73		0.73	<0.76	П	0.76	<0.80		0.80
Butylbenzene	104-51-8	0.99		79	<2.5		2.5	<0.73	0.73	<0.73		0.73	<0.76		0.76	1.1		0.80
Dibromomethane	74-95-3	<0.79		79	<2.5		2.5	<0.73	0.73	< 0.73		0.73	<0.76	Ш	0.76	<0.80	L	0.80
Ethyl Acetate	141-78-6	10		79	<2.5		2.5	<0.73	0.73	<0.73		0.73	<0.76	Ш	0.76	9.3	₩	0.80
sec-Butylbenzene	135-98-8	<0.79		79	<2.5		2.5	<0.73	0.73	<0.73	-	0.73	<0.76	$\vdash$	0.76	<0.80	+-	0.80
Vinyl Acetate TO-15 Low Level	108-05-4	<3.2	3	.2	<9.9	_	9.9	<2.9	2.9	<2.9	-	2.9	<3.0	ш	3.0	<3.2	_	3.2
Dilution Factor		1.	.58		93.1				1.46		1.46		1	.52			1.61	
Trichloroethene	79-01-6	0.9	0.0		<1.9	L	1.9	2.5	0.029	3.7	Ľ	0.029	< 0.030	ĽÌ	0.03	0.9	Ľ	0.032
1,2-Dichloroethane	107-06-2	<0.032	0.0		<1.9		1.9	<0.029	0.029	<0.029		0.029	<0.030		0.03	< 0.032		0.032
1,2-Dibromoethane (EDB)	106-93-4	<0.032	0.0		<1.9		1.9	<0.029	0.029	<0.029	_	0.029	<0.030	Ш	0.03	<0.032	1	0.032
1,1,2,2-Tetrachloroethane	79-34-5	0.036	0.0	132	<1.9		1.9	<0.029	0.029	<0.029	1	0.029	< 0.030		0.03	0.034	1	0.032

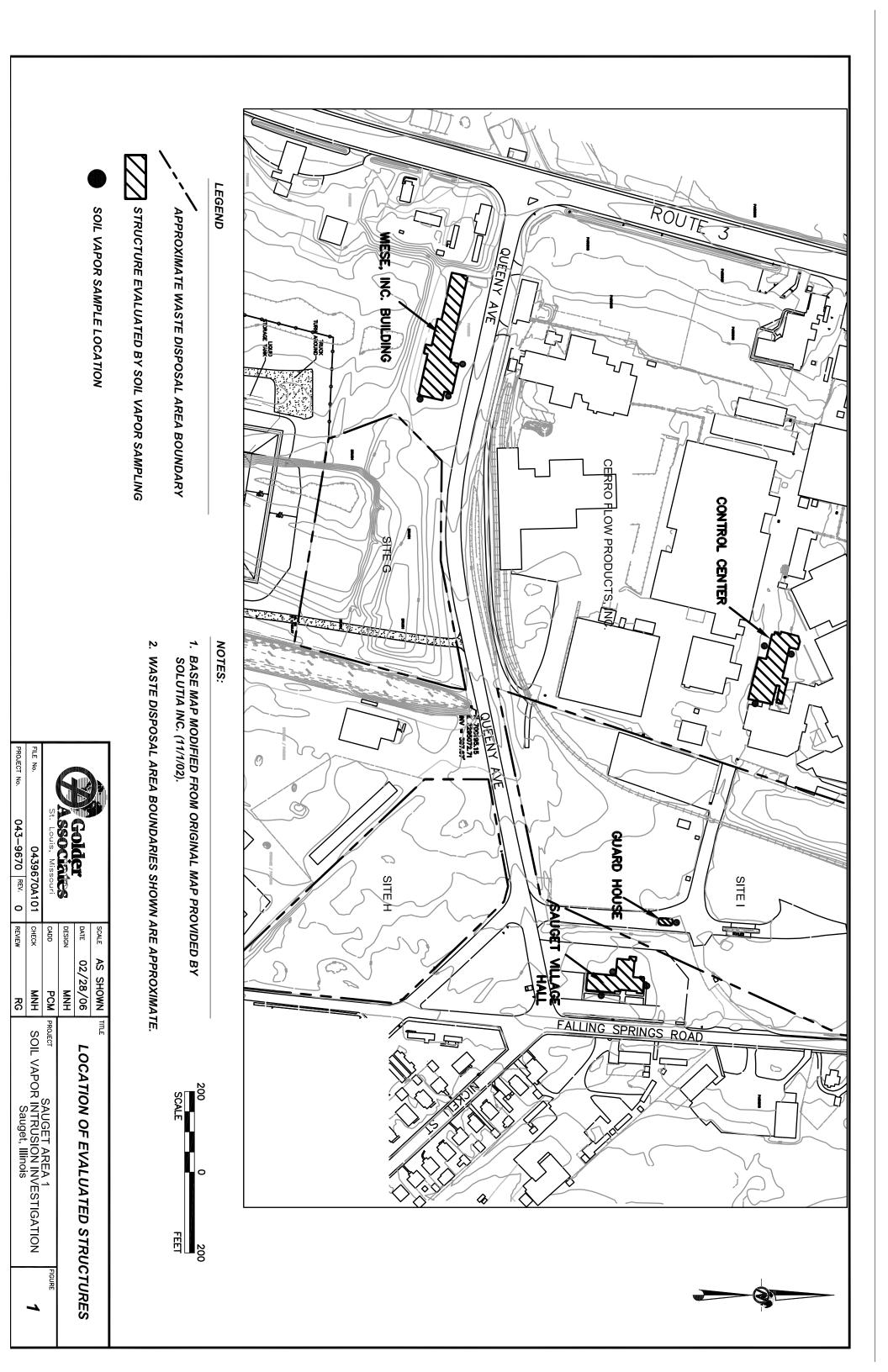
Results in **bold** denote detections. The Duplicate is associated with SV-7. Flags and Qualifiers J - Result is an estimated value. N/A - Not analyzed. UJ - Estimated reporting limit. D - Diluted sample

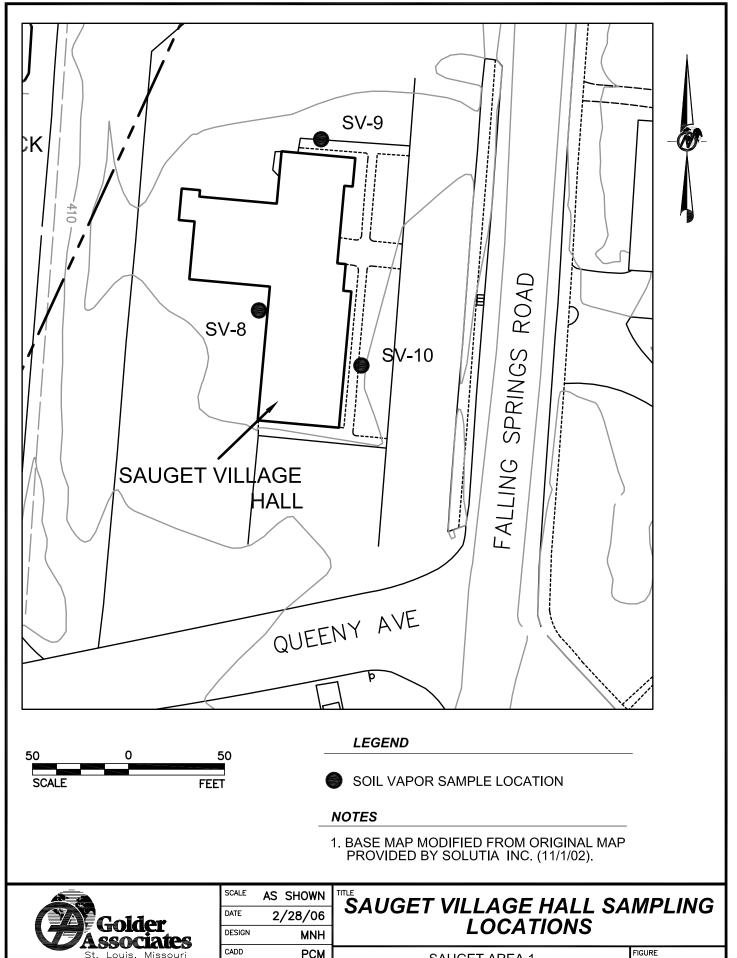
 Checked by:
 JAP
 Date:
 1/25/2007

 Reviewed by:
 MNH
 Date:
 1/25/2007

# **FIGURES**

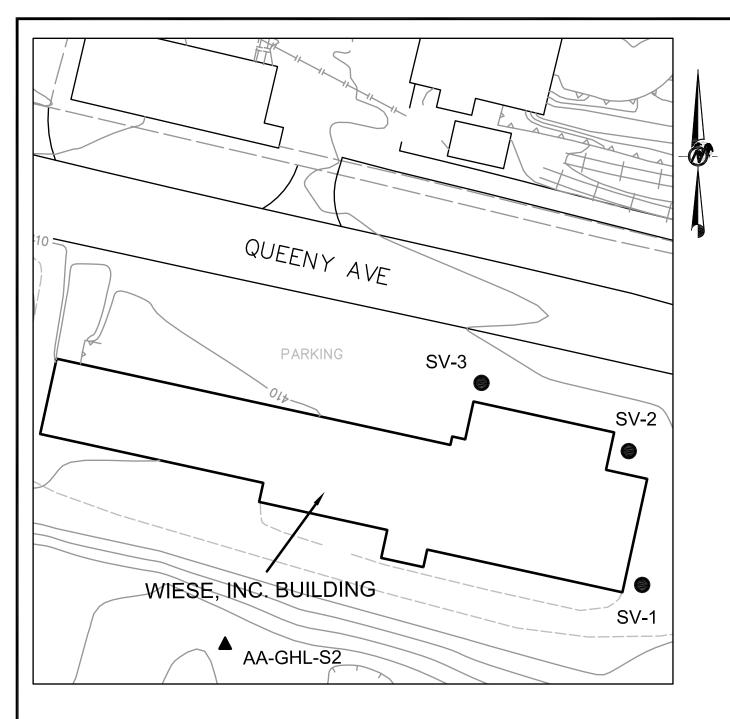
**Golder Associates Inc.** 





####################################		•			_,,			
Golder Associates				DESIGN	MNH	LOCATIO		
	St. Louis, Miss		*	CADD	PCM	SAUGET AREA 1		
FILE No.	04396	70A1	02	CHECK	MNH	SOIL VAPOR INTRUSION INVEST		
PROJECT No.	043-9670	REV.	0	REVIEW	RG	Sauget, Illinois		

TIGATION





### **LEGEND**



SOIL VAPOR SAMPLE LOCATION



**GROUNDWATER SAMPLING LOCATION (1999-2000)** 

### **NOTES**

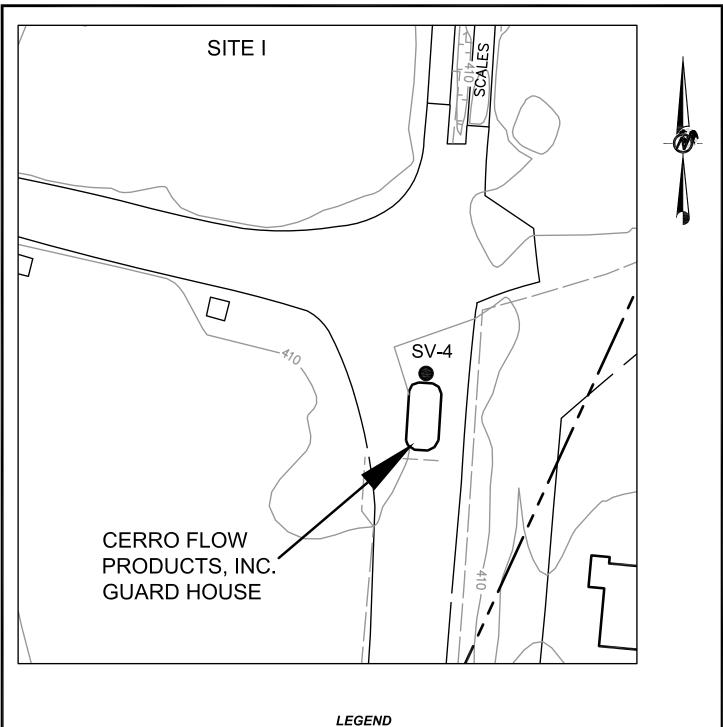
1. BASE MAP MODIFIED FROM ORIGINAL MAP PROVIDED BY

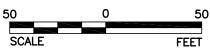
SOLUTIA INC. (11/1/02). 2. GROUNDWATER SAMPLING LOCATIONS FROM 1999 - 2000 ARE BASED ON GSI FIGURE B-1 "CHLOROBENZENE CONCENTRATIONS IN GROUNDWATER" DATED 1/21/05.

			SCALE	AS SHOWN
	Golder	,	DATE	10/20/06
	Associa	tes	DESIGN	MNH
	St. Louis, Miss		CADD	SLS
FILE No.	04396	70A103	CHECK	PGU
PROJECT No.	043-9670	REV. 1	REVIEW	MNH

# WIESE, INC. BUILDING SAMPLING LOCATIONS

SAUGET AREA 1 SOIL VAPOR INTRUSION INVESTIGATION Sauget, Illinois







SOIL VAPOR SAMPLE LOCATION

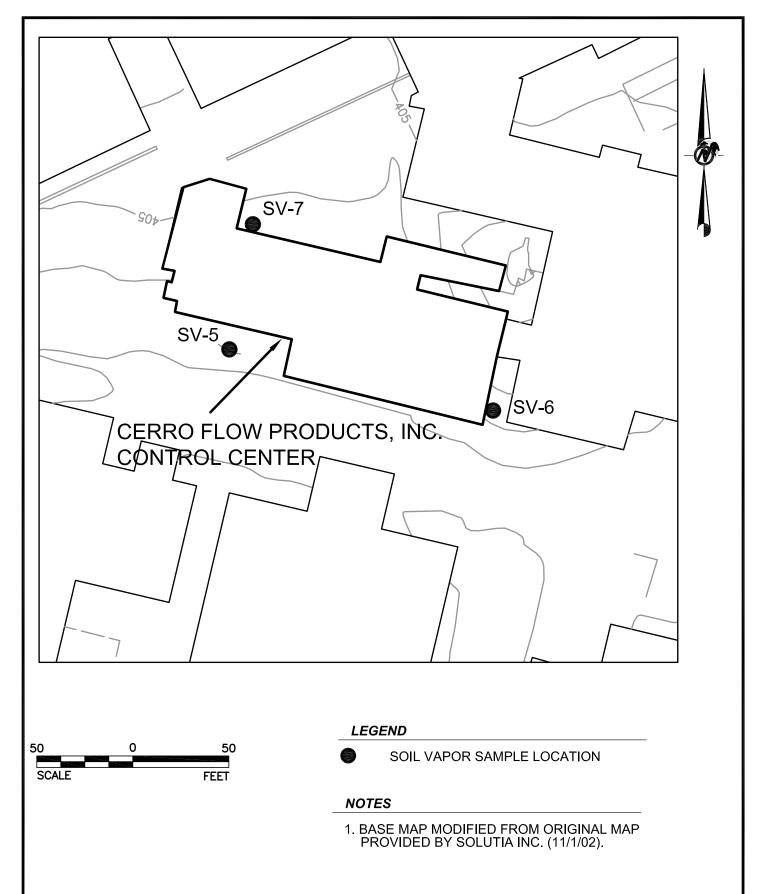
### **NOTES**

1. BASE MAP MODIFIED FROM ORIGINAL MAP PROVIDED BY SOLUTIA INC. (11/1/02).

				SCALE	AS SHOWN
	DATE	2/28/06			
	Golder Associa			DESIGN	MNH
	St. Louis, Miss			CADD	PCM
FILE No.	04396	70A10	)4	CHECK	MNH
PROJECT No.	043-9670	REV.	0	REVIEW	RG

### CERRO FLOW PRODUCTS, INC. GUARD HOUSE SAMPLING LOCATION

SAUGET AREA 1 SOIL VAPOR INTRUSION INVESTIGATION Sauget, Illinois FIGURE



				SCALE	AS SHOWN
	Golder	•		DATE	4/3/06
	Associa			DESIGN	MNH
	St. Louis, Miss			CADD	PCM
FILE No.	04396	70A10	5	CHECK	MNH
PROJECT No.	043-9670	REV.	1	REVIEW	RG

## CERRO FLOW PRODUCTS, INC. CONTROL CENTER SAMPLING LOCATIONS

SAUGET AREA 1 SOIL VAPOR INTRUSION INVESTIGATION Sauget, Illinois

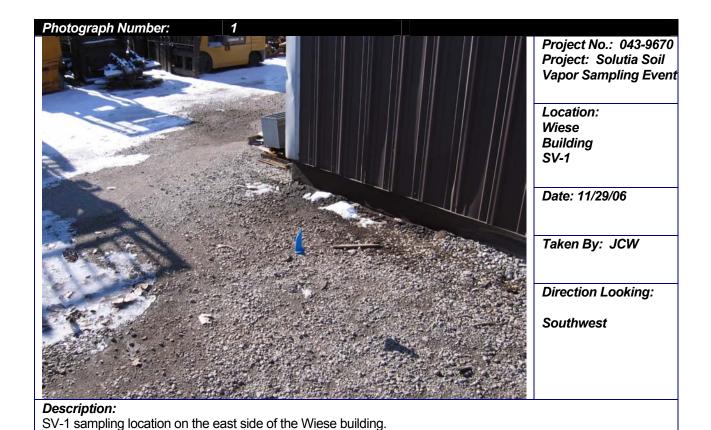
FIGURE

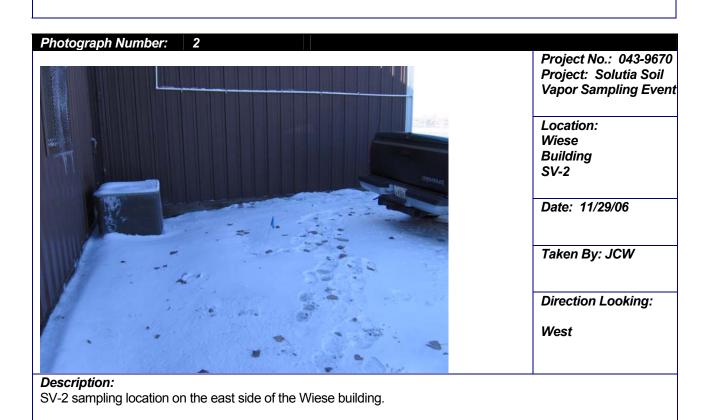
# APPENDICES

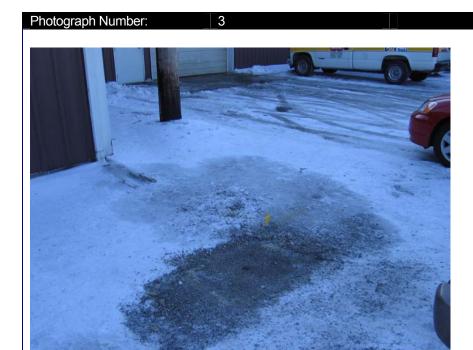
**Golder Associates Inc.** 

### **APPENDIX A**

### PHOTO DOCUMENTATION







Project No.: 043-9670 Project: Solutia Soil Vapor Sampling Event

Location: Wiese Building SV-3

Date: 12/4/06

Taken By: JCW

Direction Looking:

Southwest

**Description:** SV-3 sampling location on the north side of the Wiese building.



Project No.: 043-9670

Project: Solutia Soil Vapor Sampling

Location:

Cerro Flow Products SV-5

Date: 12/5/06

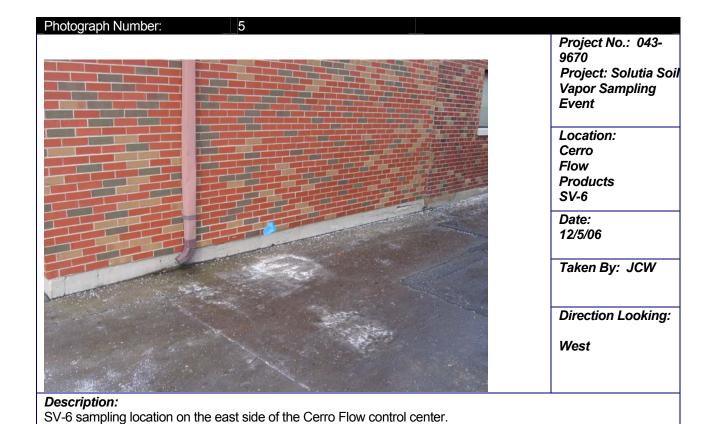
Taken By: JCW

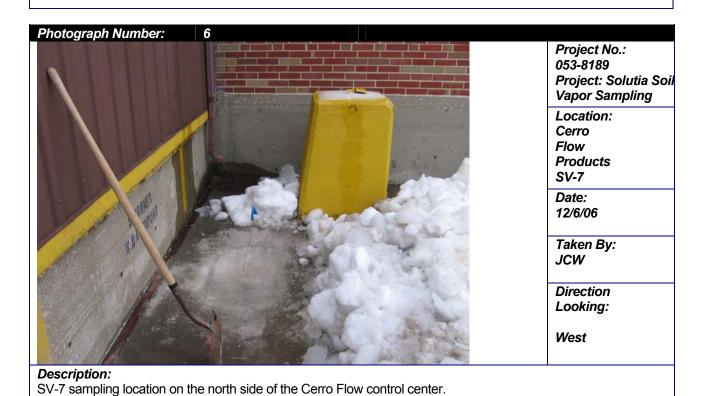
Direction Looking:

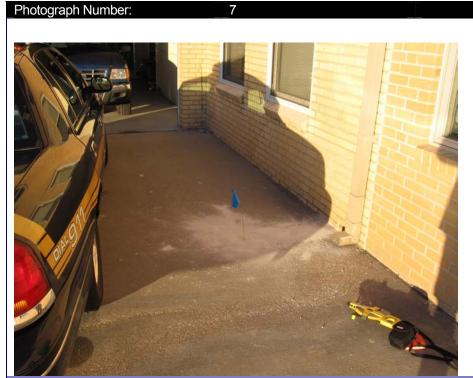
North

Description:

SV-5 sampling location on the south side of the Cerro Flow control center.







Project No.: 043-9670 Project: Solutia

Project: Solutia Soil Vapor Sampling Event

Location: Sauget Village Hall SV-8

Date: 12/9/06

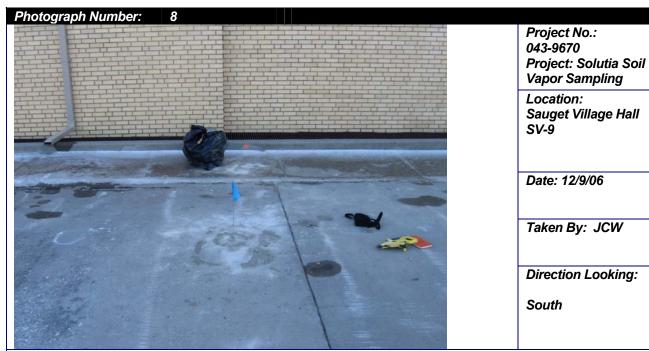
Taken By: JCW

Direction Looking:

North

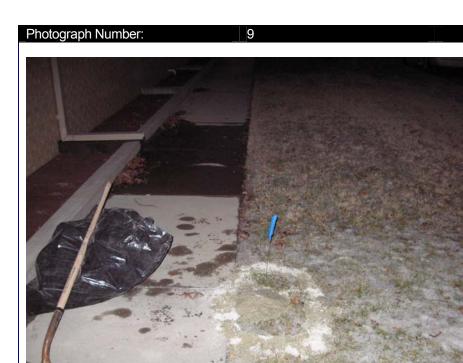
Description:

SV-8 sampling location on the west side of the Sauget Village Hall.



Description:

SV-9 sampling location on the north side of the Sauget Village Hall.



Project No.: 043-9670 Project: Solutia Soil Vapor Sampling Event

Location: Sauget Village Hall SV-10

Date: 12/9/06

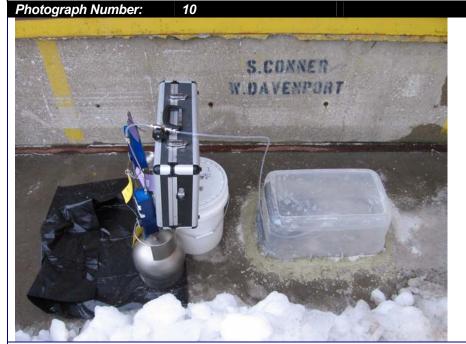
Taken By: JCW

Direction Looking:

North

Description:

SV-10 sampling location on the east side of the Sauget Village Hall.



Project No.: 8189 053-

Project: Solutia Soil Vapor Sampling

Location: Cerro Flow **Products** 

Date: 12/6/06

Taken By: **JCW** 

Direction Looking:

South

Description:

Duplicate sampling location on the north side of the Cerro Flow control center.

### **APPENDIX B**

# SAMPLE COLLECTION FORMS, FIELD CALIBRATION FORMS & FIELD NOTES



Project Ref:	olutia Soil wapor sampling	Event	Project No. : <u>043−9670</u>
NEATHER CONDITIO	NS		5
Temperature	65°F Weather	Cloudy	- 15 mph wind, south
SAMPLE INFORMATION	ON .	4	
Sample Location	Wiese	Sample No.	SV-1
Sample Date	11/29/06	Sample By	JCW/MNH
Sample Method	Awa Prose dechenica tip	Sample Type	Soil Gas, Integrated 1 hr
Initial Vacuum	29,5 in Ha	Sample Location	on Map
Final Vacuum	5.0 in Ha		W. Carlon Comments
Purge Volume	53 mL x3 159 mL	The second secon	( )
Duration of Purge	1.5 min		
Sample Start Time	//00		
Sample End Time	1208	- office	
Sample Volume	~51	7	Committee of the state of the s
Sample Depth	5,1 F+865	7	Salaro Julian
Backfill Material	Granular Zentonile	wiese	dacado
Canister Serial #	96107 FLR# 47569	- where	door
Regulator Serial #	96107	_	SV-1
d	eg la constant	· ·	and the second s
4.35.4	TUBE 3/16 in ID	A STATE OF THE STA	121115162
			,
ABORATORY CONT	<u>AINERS</u>		
Sub		Tune and Cine of	Filtered Type of

Sub- Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	TO-15 (mod H:/Lo)	6L Summa	No	Algorithmas (n.
2				
3				
4				

REMARKS:			
Check time	PIP Recidina	Vacuum	
1110	0.0 9811	25.0 in Ha	
//20	0,0	20.8	
1/30	0,0	16.1	
1140	0,0	12.	 
1/50	0.0	9,0	
1200	0.0	6.6	
1204	0.0	5.0	



Project Ref:	Solutia Soil Vapor Sampling E	· vent	Project No.: 이니크 - 역6구0
NEATHER CONDIT	TIONS		
Temperature	70° Page Weat	ther <u>cloudy</u> A	und ~ 10 mph, south
SAMPLE INFORMA	ATION .	₫° f	
Sample Location	WILShow	Sample No.	51 - 2
Sample Date	11/29/06	Sample By	JCW, MNH
Sample Method	AMS Probe , Dedicated ti	Sample Type	Soil gas integrated ~ 14
Initial Vacuum	29,2 in Ha	Sample Location	n Map
Final Vacuum	5.0 in 149	and the second of the second of the second	AN.
Purge Volume	40 mL x3 /20 mL	Que	Llay Allen
Duration of Purge			
Sample Start Tim			
Sample End Time	e /548		, , , , , , ,
Sample Volume	~ 51		9 ft 1 13 ft
Sample Depth	5.0 f+ BGS	office	9++ 1/13++
Backfill Material	6in Silica Sand / Granular bent		La construction of the second
Canister Serial #	34741		
Regulator Serial	# 34741	_ wise	
7,5 +7	the 3/16 in ID		1
ABORATORY CO	NTAINERS		

Sub- Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative	
1	TO-15 (mod H1/L0)	6L Summa	No		
2					
3					
4					

REMARKS:	Vehicular traffic	close by do	ring S	AMPling	, exhaust	fumes	present,
Check time	_ PID Reading	Vacion					*
1445	MA9 0.0	25,0	In Ha				
1455	0.0	21,2					
1505	0.0	17,0			•		
1515	ტ.მ	13.18					
1525	0.0	10.7					
1535	0.0	8,0					
7545	0.0	5.8					
				<del></del>	, .		



Project Ref: Sok	Ha sollyapor sampling E	vent		Project No. :	143-9670
WEATHER CONDITION	<u>ONS</u>		_		
Temperature	25° F v	Veather	Suny,	M/W	
SAMPLE INFORMAT	ION _		* /	•	
Sample Location	Wiese		Sample No.	5V-3 WALS	<u> </u>
Sample Date	12/04/06		Sample By	ICW/MKF	
Sample Method	AMS		Sample Type	in the comp	oc, Le
Initial Vacuum	28,5 m 12a		Sample Location	п Мар	A. 1
Final Vacuum	5.0 IN HA				
Purge Volume	42mb x3 /26,	m l			
Duration of Purge	75 see				
Sample Start Time	1213			43	
Sample End Time	1322		95	N ->	
Sample Volume	$\sim$ $5$ L		1.5	ı ş <sup>1</sup>	
Sample Depth	5.0 F+30-5		A Para	NA SETA ( TO SELECTION AND AND AND SETA AND SET	
Backfill Material	20/m silica Sand i Ocurivias Re	ntouse		10 PC V Coleman	
Canister Serial #	335 58				Language and the same and the s
Regulator Serial #	33558	-			Wood Control of the C
7.784	5000		7. 1. 3	L. Daniel	
1 ' 4 "	500c		WH	A STATE OF THE STA	
	27 50				
LABORATORY CONT	<u> AINERS</u>	L			

Sub- Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	70-15 Hillo (mod)	6L Summa	NO	applicate makes for the Paris
2				
3				
4				

Checktime	in Ha	PIL	
1223	25,50	<i>p.</i> 0	 
1233	21.1	6.0	
1243	17.8	0,0	
1253	14, [	0.0	
1303	11.0	0.0	
1313	9.6	0.0	
1323	6,5	6.0	
	<i>k</i>		



roject Ref:	Solutia Soil 1	Japac Sampling E	rent	Project No. :	_043-967-0
VEATHER CO	The second secon	Weather		Silvin	id The Sny
Temperature		vveatriei	- Cloyd Y		
AMPLE INFO				5V-4	cerro
Sample Loca			_ Sample No.		
Sample Date			_ Sample By	JOWNLE	<u> </u>
Sample Meth			_ Sample Type	- JAS	
Initial Vacuu	m <u>29.0</u>		Sample Location	Map 🤫 🚉 🖹	9
Final Vacuur			_	Fre Late of	P. 1
Purge Volum		x3 177	_  ,		in the second
Duration of F		· 	_ \	MIF-SU.	-ld /
Sample Star			_		g .
Sample End			_		
Sample Volu			_		7
Sample Dep		70-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	_	Choig	
Backfill Mate	T	anular Bentonite	_	J. Signatura	
Canister Ser Regulator Se			-	I was	
Regulator Se	erial # 12014		-		
10.9 A	tube 71		**************************************		-
,	55		/		1
<u>ABORATORY</u>	CONTAINERS				<b></b>
Sub-	A	oio Dominatad	Type and Size of	Filtered	Type of
Sample	Ariary	sis Requested	Sample Container	(Yes or No)	Preservative
1	T0-15		6L Summer	The state of the s	THE MANAGES (4.
2					
3					
4					
EMARKS:	hock Time	inte	275	<u></u>	
	1130	793	10.0		
,	7/40	-25.5	M.O. Shirth	n. 19 Min 1	moisture, a He
	1150	~21	30.0	J. J.	P
	1200	14.9	Carinda Carind		
	1220	14.9			
	1230	9.3	**************************************		
		1 1 3			
	·				



ASSOCIA	_					
Project Ref:	Solutia	Soil Vapor Sa	impling E	rent	Project No. :	043-9670
WEATHER CONL	DITIONS			٠	<b></b>	1
Temperature _	40°F	Sumy	Weather	Sunny S	was Extuin	d
SAMPLE INFORM	<u>MATION</u>			•		
Sample Location	on <u>Cerro</u>	Control Center		Sample No.	51-5	
Sample Date	n	15/06		Sample By	ICW/MEF	Nitro Min
Sample Metho	d	440 2		Sample Type	Tilkean	POSIF
Initial Vacuum		29,4 in Ha		Sample Location	ı Мар	
Final Vacuum		50 14 MM			, market and a state of the sta	A
Purge Volume		36 m - ×3 /	08 m L			$\Lambda$
Duration of Pu	rge	65 Sec		cerro	(Control of the Control of the Contr	IN I
Sample Start T	ime	1206			No. of Contract of	The same of the sa
Sample End Ti	me /	315				
Sample Volum	e 7.	54				
Sample Depth	0.8	F				Apple of the Control
Backfill Materia	20/40 :	Filizion Sand / Oceanula	r Butomle		control can	rec
Canister Serial				And the second	34 F+	
Regulator Seria					TEST STATE	Common State of State
				01/2		Witness St. Co.
/ ~	a 41/	<0 r		34°2	YFA	ACCOUNT OF THE PARTY OF THE PAR
6,+	cr 44 22	01 p			8in	
LABORATORY C	ONTAINER	<u>s</u>				
Sub-		Analysis Danys stad		Type and Size of	Filtered	Type of
Sample		Analysis Requested	•	Sample Container	(Yes or No)	Preservative

Sub- Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1				
2				
3				
4				

crecktion e	1/4 Ha 25.0	0,0 0,0		
1226	1.05	Λ.0		
1236	16.0	<u> </u>		
1246	12.0	0.0		
1306	6.6	8 5	* *,	
1215			y - *	
			·	



Project Ref: Solver Sounding ?	Project No.: 043-9670
WEATHER CONDITIONS	
Temperature 45° 25 Weather	Sunny SE wind ~ SMPX
SAMPLE INFORMATION	
Sample Location Cesto Fooducts	Sample No. SV %
Sample Date 12/5/06	Sample By JCW/MRF
Sample Method MS GVA	_ Sample Type Megrale 0
Initial Vacuum 30 , 0 KHg	Sample Location Map
Final Vacuum $\mathcal{E}, 0$	
Purge Volume 34 x3 /0 2	
Duration of Purge 60 See	
Sample Start Time / \$ 15	- control
Sample End Time 16 32	- control
Sample Volume	
Sample Depth /5 in codes	
Backfill Material 2040 Suica SMA, pentante	_
Canister Serial # 4//6	The second secon
Regulator Serial # 4///6	_
40 Sec	
6,3 St 40 sec	
. To French	
ABORATORY CONTAINERS	

Sub- Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of  Preservative
1	TO-15 HI/LD modified	GL Summa	NO	en e
2			· · · · · · · · · · · · · · · · · · ·	
3				
4				

REMARKS:							
	cheek sine	(PHNS)		AD(MM)			
	1525	26.5		8,3			
	1535	21.5		0.0			
	1545	17.4	1. 14	0,0			
	1555	13,9		0.0		 	
	1605	19.5		<u> </u>			
	16/5	7.6		0.0			
	1625	6,0		0,2		 	
	Some Wellevlar	trapple				 	
					- 100		



Project Ref: SolvHa Soil Vapor Sampling Event	Project No. : 643 - 9670
WEATHER CONDITIONS	
Temperature 40°F Weather Cloudy	Eastword Somph
SAMPLE INFORMATION	·
Sample Location <u>Cerro Conteo   Center</u> Sample No.	5V-7 + Duplicate
	Jiwnite, M. Foresman
Sample Method AMS G-VP Sample Type	~140
Initial Vacuum SV-7: 29,4 DUP (28,7 Sample Location	n Map
Final Vacuum SU-7! SLO DUP: SLO	
Purge Volume 38 x3 // 4 m L	
Duration of Purge 69 50C	N _
Sample Start Time 1026	
Sample End Time 0vp : //27 5v-7 : (179	eu - In
Sample Volume - 5 L	
Sample Depth //8ft /ft concerts	50
Backfill Material 20/40 Sand grawks Bentonite	Center Center
Canister Serial # 51-7:12692 2 27:417	CEN FC
Regulator Serial # 51-7:17692 Dup: 417	1
7.1 Hrune 23 Sec 28.4 28.7	
LABORATORY CONTAINERS	

Sub- Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	70-15 HI/Lo mod	6L Suma	A	
2		·		
3				
4				

REMARKS:			
check time SV-7 In HE DUP	PID		
1036 23,9 23.8	0.0		
1046 19.0 19.0	0,0		
1056 14.5 14.8	0,0		
1106 11.1 1019	D võ		
116 7,9 8,1	0		
1126 5.8 5.3	<b>0</b> , ()		
		 	·



Project Ref: 5	olutia Soil Vapor	Sampling Event	26.9	Project No. :	043-9670
Temperature	40° F	Weather	So vo ve f	~ 10 mph	South wind
SAMPLE INFORMAT  Sample Location Sample Date Sample Method  Initial Vacuum Final Vacuum Purge Volume Duration of Purge Sample Start Time Sample End Time Sample Volume Sample Depth Backfill Material Canister Serial # Regulator Serial #	Savge + Vivlag 1219/00 8 AMS - CVP 27.1 in Ha 5.0 in Ha 84 mL 150 Sec 1019 117.4 	x3 25 2 mL		Scw/ss The con on Map	-
LABORATORY CON	<u>TAINERS</u>				

Sub- Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	70-15 mod Hi/LO	GL Summa	March Control of the State of t	and the second s
2				
3				
4				

MARKS:			MLAC AD	THE ONLAGE
	·			J
Crecktine	INH9	PIL		e .
arcktinge 1029	23.9	0.0		
1039	1811	0, 1		
1049	14.1	0.1		
1059	12.1	p. 2		
1109"	7.5	Ŏ, \		
((19	5.6	Q 1		
		************		



Project Ref:	lutta Salvapor Sa	with priling		Project No. : 043 - 96	70
WEATHER CONDITION Temperature	<u>45°</u>	Weather	50,000 W	nd source - 50	nph
SAMPLE INFORMATI Sample Location Sample Date Sample Method	Sauget Village 12/9706 AMS-CUP	acceptance of the second of th	Sample No. Sample By Sample Type	SV-9 ICW/SS	
Initial Vacuum Final Vacuum Purge Volume Duration of Purge Sample Start Time Sample End Time Sample Volume Sample Depth Backfill Material Canister Serial # Regulator Serial #	147 Sec 1335 1446 SL 11.1 CV 20/40 Sand / Granvia 4251 4251	246 m	Sample Locatio	23.45 [1454] 23.044	
LABORATORY CONT	TAINERS				

Sub- Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	To-15 mod H1/20	GL Summa	generative exercises.	and the second s
2	·			
3				
4				
	- 0			

culca time	)m 14-4	P. of		
 1345	27.4	0.1		
1365	23,5	0,3		
1405	19,5	0.1		
1415	15.5	0. b	****	
 1425	12·2 9.5	0,0		
 1445	6,7	0,2		
 				· · · · · · · · · · · · · · · · · · ·



Project Ref:	Soldia Sollvapor	Jamping Even	<del>f</del>	Project No. :	043-9670
WEATHER CON	<u>DITIONS</u>	*		< "-	1 - 5
Temperature	42° F	vveatner	Sunny	Jouth Wi	nd 2mp
SAMPLE INFOR Sample Locat Sample Date Sample Metho Initial Vacuum Final Vacuum Purge Volume Duration of Pu Sample Start Sample End T	ion $\frac{3avget V_1}{12/9/06}$ and $\frac{12/9/06}{16}$ and $\frac{29.7}{16}$ in $\frac{19.7}{16}$ in $\frac{9.6}{16}$ arge $\frac{170}{1654}$ Time $\frac{194.0}{1654}$	1192 Hall  X3 788 ML	Sample Type	partment	
Sample Depth Backfill Mater Canister Seria Regulator Ser	11.0 St ial 20/4 34466 ial# 34466		18.0 ft Su-10	Village Hall	garante and the second
LABORATORY	CONTAINERS			THE CONTRACT OF THE CONTRACT O	M
Sub- Sample	Analysis Re	quested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	TO-15 mod P	-1/20	61 SUVNIVA	100 Mary 100	the second section of the second section is a second section of the second section of the second section is a second section of the second section sec
2					
3					
4					k
REMARKS: Ch 15 16 16 16	$\frac{20}{50}$ $\frac{13}{7.2}$	P10 0.1 0.1 0.3 0.1 0.0 0.0			

#### SOIL VAPOR SAMPLE COLLECTION FORM



120000						
Project Ref:	Solutia Soil Vapor	Samplin	a Event	Project No. :	043-9676	)
NEATHER CON	DITIONS		J	æ.	*	
Temperature	50° pm	Weather	cloudy, n	11st, Sil	und and su	a þ
SAMPLE INFOR	<u>MATION</u>		i			
Sample Locat	ion <u>Cerro Copper</u>	: 	Sample No.	Equipman	+ Blank	
Sample Date	12/11/06		Sample By	J. white		
Sample Metho	od <u>canisher</u> to canis	145	Sample Type		integrated	
Initial Vacuum	29,5 in Ha		Sample Location	Мар '	+	
Final Vacuum	S.O in it a		,		17 N 1.	
Purge Volume	e alme x3	65 ML		Egyipme	A STATE OF THE PROPERTY OF THE	
Duration of Ρι		00 ml/min		THE STEIN	nK	
Sample Start		8		*****		
Sample End T				THE THE PERSON NAMED IN COLUMN TO TH	724	
Sample Volun					e de la companya de l	
Sample Depth	- Control Cont				egger east out of	
Backfill Materi	al			Guard	America (1904)	
Canister Seria	11# 34403			Shack	- Posteriorie (C	
Regulator Ser	400				n service de la company	
-					,	
			**************************************		o de la constanta de la consta	
				!	i de la companya de l	
			/	*	*	
ABORATORY	CONTAINERS		<u> </u>		***************************************	
Sub-	Analysis Requested		Type and Size of	Filtered	Type of	
	Analysis Hoquestea	1		ا دینمیییین ا	Dona a maranta 1	

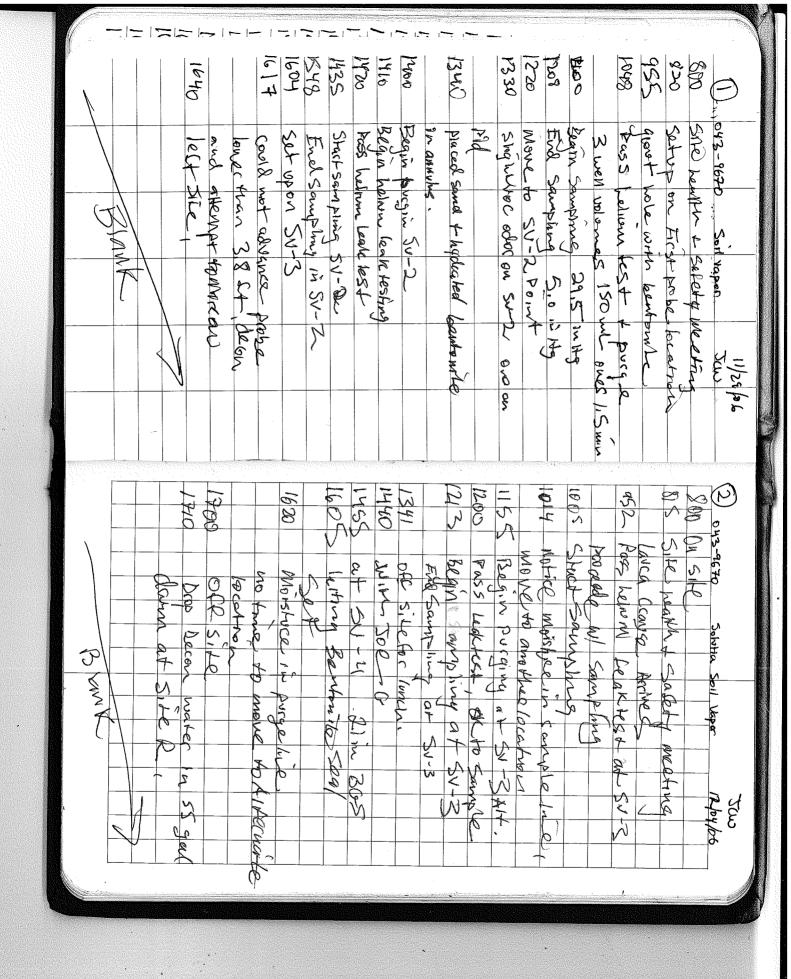
Sub- Sample	Analysis Requested	Type and Size of Sample Container	Filtered (Yes or No)	Type of Preservative
1	TD-15 mod HI/Lo	6L Summa		The second secon
2				
3				
4				

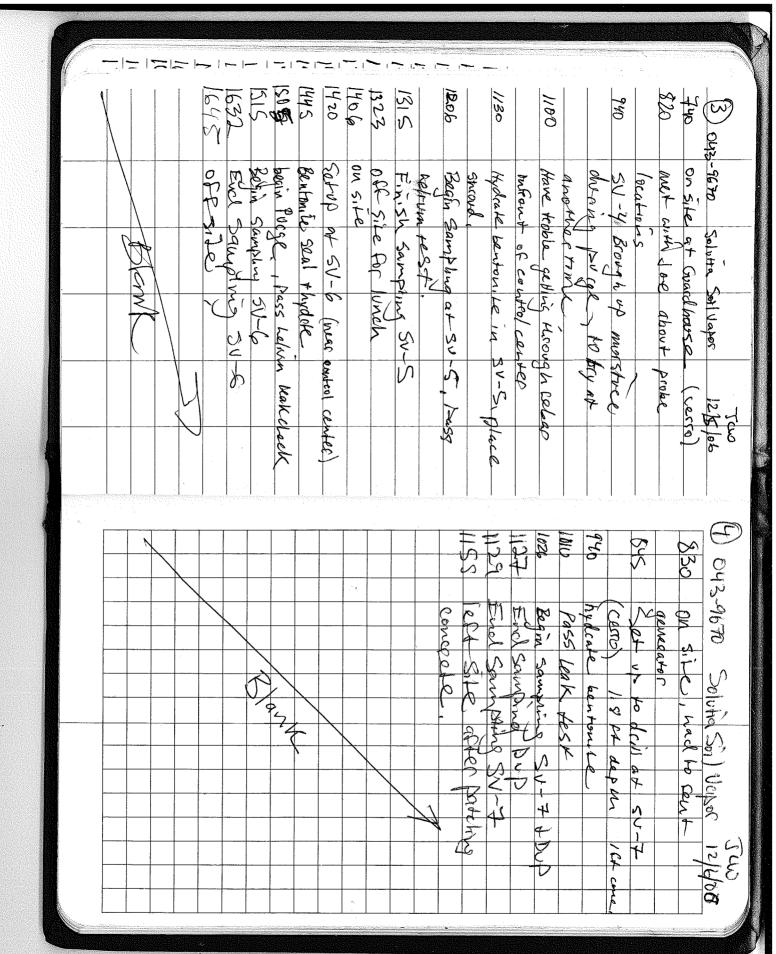
REMARKS: USed	l Zero air as	Vaporpoint	
( heck time		1 1	
yn Ha		<u> </u>	
19.	1 /202	0,0	
11.6	1212	6.0	
2,5	1 1222	0.1	
Surry 1	0 /230	0.0	
		· · · · · · · · · · · · · · · · · · ·	

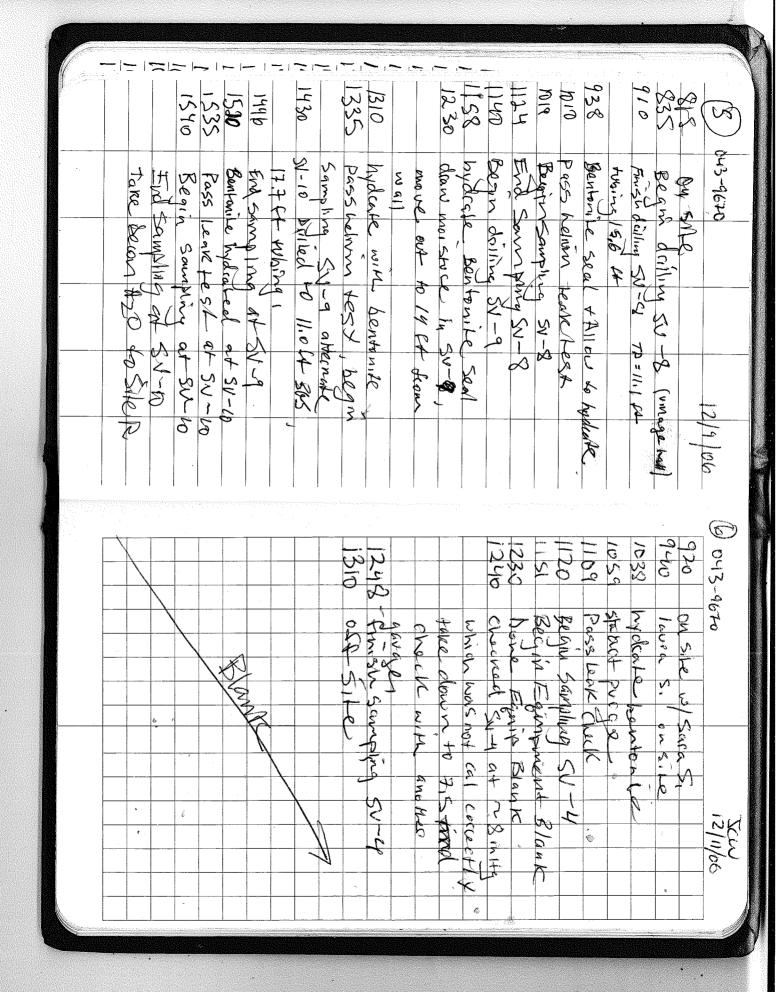


#### INSTRUMENT CALIBRATION FORM

Project Name: SoloHa S	Soil Vapar S	anaphing	Project No:	C769-540			
Calibration By:	New Constitution of the Co	*					
Instrument Details							
Instrument Name			MINI RAE				
Serial No.							
Model No.							
Calibration Details							
Required Calibration Freque	ency/Last Ca	alibration	Beginning of Ever	y day + as needed			
Calibration Standard			Isobut	100 ppm			
Calibration Standard(s) Exp	iration Date		06/09				
Calibration:	Date	Time	Calibration Standard Units: トゥル	Instrument Reading Units:			
	11/29/06	820	100	120			
	12/4/06	895	100	100			
	12/5/06	800	/00	100			
	12/6/06	845	100	100			
	12/9/06	840	100	100			
	12/11/06	940	100	100			
		-					
l							
Comments:							







#### **APPENDIX C**

#### LABORATORY ANALYTICAL REPORTS

Project Review Laborat	ory: Mic toxies LTD.		roje 🚣	ect Manager: ect Number: ation Date:	043-9570
Matrix:	cal Method (type and no.):				
NOTE:	Please provide calculation in Comment areas of	r on the b	ack (if o	n the back	please indicate in comment areas).
	formation	YES	NO	NA	COMMENTS
a)	Sampling dates noted?	V	П		
b)	Sampling team indicated?		П		
c)	Sample location noted?		_ _ П		
d)	Sample depth indicated (Soils)?				
e)	Sample type indicated (grab/composite)?				
f)	Field QC noted?				
g)	Field parameters collected (note types)?				PID
h)	Field Calibration within control limits?				
i)	Notations of unacceptable field conditions/performa	ances fror	n field lo	gs or field no	otes?
			g		
j)	Does the laboratory narrative indicate deficiencies'	? 🖳			
	Note Deficiencies: 51-2-55	a m	ata	was	cemoued due to it
	being loaded incorcecti	X ON	460	analy	hear instrumentation,
	SIZFUIT SCAN IS CAPORL	ad it	n an	o thee	3AC.
Chain-c	f-Custody (COC)	YES	NO	NA	COMMENTS
a)	Was the COC properly completed?	<b>y</b>			
b)	Was the COC signed by both field and laboratory personnel?				
c)	Were samples received in good condition?	Ø			
General	(reference QAPP or Method)	YES	NO	NA	COMMENTS
a)	Were hold times met for sample pretreatment?				HT=141
b)	Were hold times met for sample analysis?				
c)	Were the correct preservatives used?				
d)	Was the correct method used?	Ø			
e)	Were appropriate reporting limits achieved?				SV-I high due to high level
f)	Were any sample dilutions noted?				mateix interference.
g)	Were any matrix problems noted?	ø É			hydrocarbon matrix interference,

a)	Were analytes detected in the method blank(s)?				
	voic analytes detected in the method blank(s).		Image: section of the content of the con		
b)	Were analytes detected in the field blank(s)?				
c)	Were analytes detected in the equipment blank(s)?		12		
d)	Were analytes detected in the trip blank(s)?				
Labora	atory Control Sample (LCS)	YES	NO	NA	COMMENTS
a)	Was a LCS analyzed once per SDG?				
b)	Were the proper compounds included in the LCS?				
c)	Was the LCS accuracy criteria met?				
Duplic	ates	YES	NO	NA	COMMENTS
a)	Were field duplicates collected (note original and du	plicate s	sample na	ames)?	
			Ø		
b)	Were field dup. precision criteria met (note RPD)?				
c)	Were lab duplicates analyzed (note original and dup	olicate sa	amples)?		
d)	Were lab dup. precision criteria met (note RPD)?				
Blind \$	Standards	YES	NO	NA _	COMMENTS
a)	Was a blind standard used (indicate name,			The state of the s	
	compounds included and concentrations)?			aged*	
b)	Was the %D within control limits?			September 1	
Matrix	Spike/Matrix Spike Duplicate (MS/MSD)	YES	NO	NA 💉	COMMENTS
a)	Was MS accuracy criteria met?			w w	
·	Recovery could not be calculated since sample contained high concentration of analyte?			Market	
b)	Was MSD accuracy criteria met?			Land Parker	
•	Recovery could not be calculated since sample contained high concentration of analyte?				
c)	Were MS/MSD precision criteria met?			W Comments of the Comments of	
Surrog	rate Spikes	YES	NO	NA	COMMENTS
a)	Were surrogate recoveries within control limits?				1,2-Bundagebrana de
b)	Were surrogate recoveries not calculated due to dilutions?				Recovered high due to matrix interference
Comm	ents/Notes:				

Page 2 of 3

#### Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
no qua	Tiffees			
V				
			-	
			1	

Signature: _	linds hella	Date:



#### 0611634AR1 **WORK ORDER #:**

Work Order Summary

CLIENT:

Mr. Mark Haddock

BILL TO: Mr. Mark Haddock

Golder Associates, Inc. 820 South Main Street Golder Associates, Inc. 820 South Main Street

Suite 100

Suite 100

St. Charles, MO 63301

St. Charles, MO 63301

PHONE:

(636)-724-9191

P.O. # 043-9670

FAX: DATE RECEIVED: (636-724-9323

PROJECT#

043-9670 Solutta Soil Vapor Sampling

DECEIDE

11/30/2006 01/25/2007

CONTACT:

Event Brandon Dunmore

DATE COMPLETED: DATE REISSUED:

01/25/2007

		RECEILI
<u>NAME</u>	<u>TEST</u>	VAC./PRES.
SV-1 Wiese	Modified TO-15 SIM	5.0 "Hg
Lab Blank	Modified TO-15 SIM	NA
CCV	Modified TO-15 SIM	NA
LCS	Modified TO-15 SIM	NA
	SV-1 Wiese Lab Blank CCV	SV-1 Wiese Modified TO-15 SIM Lab Blank Modified TO-15 SIM CCV Modified TO-15 SIM

CERTIFIED BY:

Sinda) S. Fruman

01/25/07

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004 NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act, Accreditation number: E87680, Effective date: 07/01/06, Expiration date: 06/30/07

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630 (916) 985-1000 (800) 985-5955 FAX (916) 985-1020



#### LABORATORY NARRATIVE Modified TO-15 SIM Golder Associates, Inc. Workorder# 0611634AR1

Two 6 Liter Summa Special (100% Certified) samples were received on November 30, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition mode. The method involves concentrating up to 0.5 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

Requirement	TO-15	ATL Modifications
ICAL %RSD acceptance criteria	=30% RSD with 2<br compounds allowed out to < 40% RSD	Project specific; default criteria is =30% RSD with 10% of compounds allowed out to < 40% RSD</td
Daily Calibration	+- 30% Difference	Project specific; default criteria is = 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers</td
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

#### **Receiving Notes**

There were no receiving discrepancies.

#### **Analytical Notes**

The recovery of surrogate 1,2-Dichloroethane-d4 in samples SV-1 Wiese and SV-2 Wiese was outside control limits due to high level hydrocarbon matrix interference. Data is reported as qualified.

THE WORK ORDER WAS REISSUED ON 01/25/2007 IN ORDER TO REMOVE THE ANALYTICAL RESULTS FOR SAMPLE SV-2 WIESE FROM THIS REPORT. UPON FURTHER REVIEW OF THE ANALYTICAL DATA, SAMPLE SV-2 WIESE WAS DETERMINED TO HAVE BEEN LOADED INCORRECTLY ON THE ANALYTICAL INSTRUMENTATION.

#### **Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

- B Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
  - J Estimated value.
  - E Exceeds instrument calibration range.
  - S Saturated peak.
  - Q Exceeds quality control limits.



- U Compound analyzed for but not detected above the reporting limit.
- UJ- Non-detected compound associated with low bias in the CCV
- N The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

- a-File was requantified
- b-File was quantified by a second column and detector
- r1-File was requantified for the purpose of reissue



### Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS SIM

Client Sample ID: SV-1 Wiese

Lab ID#: 0611634AR1-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)	
Trichloroethene	0.32	72	1.7	380	



4-Bromofluorobenzene

AN ENVIRONMENTAL ANALYTICAL LABORATORY

#### Client Sample ID: SV-1 Wiese Lab ID#: 0611634AR1-01A

#### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name: Dil. Factor:	6121118 16.1		Date of Collection: Date of Analysis:	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0 32	72	17	380
1,2-Dichloroethane	0.32	Not Detected	1.3	Not Detected
1,2-Dibromoethane (EDB)	0.32	Not Detected	2 5	Not Detected
1,1,2,2-Tetrachloroethane	0.32	Not Detected	2.2	Not Detected
Q = Exceeds Quality Control limit	S.			
Container Type: 6 Liter Summa	Special (100% Certified)	)		
				Method
Surrogates		%Recovery		Limits
1,2-Dichloroethane-d4		564 Q		70-130
Toluene-d8		104		70-130

103

70-130



#### Client Sample ID: Lab Blank Lab ID#: 0611634AR1-03A

#### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name: Dil. Factor:	6121106 1.00		Date of Collection: Date of Analysis:	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.020	Not Detected	0 11	Not Detected
1,2-Dichloroethane	0 020	Not Detected	0.081	Not Detected
1.2-Dibromoethane (EDB)	0.020	Not Detected	0.15	Not Detected
1,1,2,2-Tetrachloroethane	0.020	Not Detected	0.14	Not Detected
Container Type: NA - Not Applic	cable			
Surrogates		%Recovery		Method Limits
1.2-Dichloroethane-d4		98		70-130
Toluene-d8		101		70-130
4-Bromofluorobenzene		100		70-130



#### Client Sample ID: CCV Lab ID#: 0611634AR1-04A

#### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name: Dil. Factor:	Date of Collection: NA Date of Analysis: 12/11/06 08:18 AM
Compound	%Recovery
Trichloroethene	84
1.2-Dichloroethane	83
1,2-Dibromoethane (EDB)	89
1.1.2.2-Tetrachloroethane	90

#### Container Type: NA - Not Applicable

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	105	70-130



#### Client Sample ID: LCS Lab ID#: 0611634AR1-05A

#### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name: Dil. Factor:	6121103 1.00	Date of Collection: NA Date of Analysis: 12/11/06 09:07 AM
Compound		%Recovery
Trichloroethene		89
1,2-Dichloroethane		92
1,2-Dibromoethane (EDB)		101
1,1,2,2-Tetrachloroethane		102
Container Type: NA - Not Applicat	ole	
•	N/Decouper.	Method Limita

# AIR TOXICS LTD. AN ENVIRONMENTAL ANALYTICAL LABORATORY

CHAIN-OF-CUSTODY RECORD Sample Transportation Notice

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples, D.O.T. Hotline (800) 467-4922.

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Work Order #		eals intact	Customer Seals Intact?	Condition	Temp (°C)		Air Bill #	Shipper Name
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				te/Time	Received by: (signature) Date/Time	Received by		Relinquished by: (signature) Date/Time
			Notes:	Date/Time 11/30/06		11/17/00 T. Luftering	11/29/	Reinquished by: (signature) Date/Time
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5.045.95	0.5 5.	5.86	(apples sapples)	To-15 HILO (golder	1208	96107 11/29/06 1208	96107	DIA SV-1 WIESE
Receipt Final (psi)	Initial Final	ī <u>n</u> i.	Analyses Requested	Analyses	Time	Date	Can#	Lab I.D. Field Sample I.D. (Location)
Canister Pressure/Vacuum	anister Pr	Ω						
$\left(N_2\right)$ He		specify	ns Event	Project Name Samatalans Will With				WW
Pressurization Gas:	Pres	Rush	5	Project # 043-96+0		Fax 636-724-932-3	636-	Phone 636-724-9191 Fax
12/5/06	al Date:	X Normal	,   	P.O. # 043-96+0		CON Yesters	mail (Cu	Address 920 S. Main St City St. Charles State (NO Zip 6330)
Pressurized by:	lnd	Turn Aroi Time:		Project Info:		- ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '	:	Contact Person JUSHIV LAVINILE

Project Review Laborat Analytic Matrix:	ny Name: Colder Associates  Name: Solution Soil Vapor Samples  er: July hite  tory: Aic Tox, c  cal Method (type and no): TD-15 Full  Air Soil/Sed Water Waste  Names SV-/ SV-S		Proje Valid SDG	ct Number:_ ation Date: _ #:	M. Haddock 043-9070 1/25/07 1634BR1
NOTE:	Please provide calculation in Comment areas or	on the b	ack (if o	n the back	please indicate in comment areas).
Field In	formation	YES	NO	NA	COMMENTS
a)	Sampling dates noted?	Ø			
b)	Sampling team indicated?				
c)	Sample location noted?	Ø,			
d)	Sample depth indicated (Spils)? Air	₩.			
e)	Sample type indicated (grab/composite)?>				
f)	Field QC noted?			<b>P</b>	For any A
g)	Field parameters collected (note types)?				PID
h)	Field Calibration within control limits?	7			
i)	Notations of unacceptable field conditions/performa	nces fron	n field lo	gs or field no	otes?
			Ø		
j)	Does the laboratory narrative indicate deficiencies?  Note Deficiencies:		<b>Y</b>		
Chain-c	of-Custody (COC)	YES	NO	NA	COMMENTS
a)	Was the COC properly completed?	Ø	П		
b)	Was the COC signed by both field		-		
	and laboratory personnel?				
c)	Were samples received in good condition?				
Genera	I (reference QAPP or Method)	YES	NO	NA	COMMENTS
a)	Were hold times met for sample pretreatment?				HT = 140
b)	Were hold times met for sample analysis?	d			
c)	Were the correct preservatives used?				
d)	Was the correct method used?	D/			
e)	Were appropriate reporting limits achieved?		Y		50-1+50-2 high
f)	Were any sample dilutions noted?	Ø			due to high level hydrocarba
g)	Were any matrix problems noted?				matrix interference.

- - 1 1-	2	VEC	MO	MA	COMMENTS
Blanks		YES □	NO 🖂	<i>NA</i> □	COMMENTS
a)	Were analytes detected in the method blank(s)? Were analytes detected in the field blank(s)?				4864 400 400 400 400 400 400 400 400 400 4
b) c)	Were analytes detected in the requipment blank(s)?				no qualifiers (5x rule)
d)	Were analytes detected in the trip blank(s)?				The Automotive of the Control of the
abora	atory Control Sample (LCS)	YES	NO	NA	COMMENTS
a)	Was a LCS analyzed once per SDG?				
b)	Were the proper compounds included in the LCS?	Ø			
c)	Was the LCS accuracy criteria met?		V		Cis-1,3- Dichloropropane 1,2,4- Trimetry/henzene reco
uplic	ates	YES	NO	NA	COMMENTS
a)	Were field duplicates collected (note original and du	plicate sa	ample na	ames)?	
			Ø		
b)	Were field dup. precision criteria met (note RPD)?				
c)	Were lab duplicates analyzed (note original and dup	olicate sa	mples)?		
		Ø			
d)	Were lab dup precision criteria met (note RPD)?				< 2590 RIPL
ind :	Standards	YES	NO	NA	COMMENTS
a)	Was a blind standard used (indicate name,			9	
	compounds included and concentrations)?	<del></del>			
b)	Was the %D within control limits?				
atrix	Spike/Matrix Spike Duplicate (MS/MSD)	YES	NO	NA	COMMENTS
a)	Was MS accuracy criteria met?				
	Recovery could not be calculated since sample contained high concentration of analyte?				
b)	Was MSD accuracy criteria met?			<b>I</b>	
	Recovery could not be calculated since sample contained high concentration of analyte?				
c)	Were MS/MSD precision criteria met?			Ū,	
ırrog	ate Spikes	YES	NO	NA	COMMENTS
a)	Were surrogate recoveries within control limits?				high by 2%, no qualifies
b)	Were surrogate recoveries not calculated due to dilutions?				
	ents/Notes:				

#### Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
No Q	Malifiers			
		:		

Signature:	MITTO	WATS	Date:	1/25/0	



#### WORK ORDER #: 0611634BR1

Work Order Summary

CLIENT:

Mr. Mark Haddock

BILL TO: Mr. Mark Haddock

Golder Associates, Inc. 820 South Main Street Golder Associates, Inc. 820 South Main Street

Suite 100

Suite 100

St. Charles, MO 63301

St. Charles, MO 63301

PHONE:

(636)-724-9191

P.O. # 043-9670

FAX: DATE RECEIVED: (636-724-9323

PROJECT #

043-9670 Solutta Soil Vapor Sampling

DECEIDT

DATE COMPLETED:

11/30/2006 01/25/2007

CONTACT:

Event Brandon Dunmore

DATE REISSUED:

01/23/2007

			RECEIFT
FRACTION #	NAME	<u>TEST</u>	VAC./PRES.
01A	SV-1 Wiese	Modified TO-15	5.0 "Hg
01AA	SV-1 Wiese Duplicate	Modified TO-15	5.0 "Hg
02A	SV-2 Wiese	Modified TO-15	5.0 "Hg
02B	SV-2 Wiese	Modified TO-15	5.0 "Hg
03A	Lab Blank	Modified TO-15	NA
04A	CCV	Modified TO-15	NA
05A	LCS	Modified TO-15	NA

CERTIFIED BY:

Sinda d. Fruman

DATE: 01/25/07

Laboratory Director

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004 NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act, Accreditation number: E87680, Effective date: 07/01/06, Expiration date: 06/30/07

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630 (916) 985-1000 (800) 985-5955 FAX (916) 985-1020



# LABORATORY NARRATIVE Modified TO-15 Golder Associates, Inc. Workorder# 0611634BR1

Two 6 Liter Summa Special (100% Certified) samples were received on November 30, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.2 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

Requirement	TO-15	ATL Modifications
Daily CCV	+- 30% Difference	<= 30% Difference with two allowed out up to <=40%.; flag and narrate outliers
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

#### **Receiving Notes**

There were no receiving discrepancies.

#### **Analytical Notes**

All Quality Control Limit failures and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page. Target compound non-detects in the samples that are associated with high bias in QC analyses have not been flagged.

The reported LCS for each daily batch has been derived from more than one analytical file.

The recovery of surrogate 1,2-Dichloroethane-d4 in sample SV-1 Wiese was outside control limits due to high level hydrocarbon matrix interference. Data is reported as qualified.

By client request, sample SV-2 Wiese was analyzed twice to accurately determine high-level compounds and acheive lower reporting limits for the remaining compounds. The higher concentration compounds may be reported with an "E" flag indicating the compound exceeds the calibration range. Both analyses and associated QC are reported.

The reported CCV for each daily batch may be derived from more than one analytical file due to the client's request for non-standard compounds.

Non-standard compounds may have different acceptance criteria than the standard TO-14A/TO-15



compound list as per contract or verbal agreement.

THE WORKORDER WAS RE-ISSUED ON 01/25/07 TO REMOVE THE CLIENT SPECIFIED SIM COMPOUNDS FROM THE REPORTING LIST IN SAMPLES SV-1 WIESE AND SV-1 WIESE DUPLICATE. THESE COMPOUNDS WERE INITIALLY REPORTED IN THIS WORK ORDER DUE TO LABORATORY ERROR.

THE FOLLOWING NARRATIVE WAS ALSO ADDED AS PART OF THE 01/25/07 REISSUE:

SAMPLE SV-2 WIESE WAS TRANSFERRED FROM WORK ORDER 0611634A (SIM ANALYSIS) TO THIS WORK ORDER (FULL SCAN ANALYSIS) DUE TO HIGH LEVELS OF TARGET COMPOUNDS. ALL COMPOUNDS WERE REPORTED BY TO-15 FULL SCAN FOR THIS SAMPLE.

#### **Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

- B Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
  - J Estimated value.
  - E Exceeds instrument calibration range.
  - S Saturated peak.
  - Q Exceeds quality control limits.
  - U Compound analyzed for but not detected above the reporting limit.
  - UJ- Non-detected compound associated with low bias in the CCV
  - N The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

- a-File was requantified
- b-File was quantified by a second column and detector
- r1-File was requantified for the purpose of reissue



# Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SV-1 Wiese

Lab ID#: 0611634BR1-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	40	9100	100	23000
trans-1,2-Dichloroethene	40	78	160	310
Hexane	40	960	140	3400
cis-1,2-Dichloroethene	40	2800	160	11000
Cyclohexane	40	260	140	910
Benzene	40	920	130	3000
Heptane	40	190	160	790
Toluene	40	76	150	290
Tetrachloroethene	40	130	270	890
Chlorobenzene	40	340	180	1600
1.3-Dichlorobenzene	40	82	240	490
1.4-Dichlorobenzene	40	180	240	1100

Client Sample ID: SV-1 Wiese Duplicate

Lab ID#: 0611634BR1-01AA

Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
40	7300	100	19000
40	71	160	280
40	790	140	2800
40	2300	160	9200
40	220	140	750
40	770	130	2500
40	160	160	640
40	74	150	280
40	110	270	780
40	290	180	1300
40	78	240	470
40	170	240	1000
	(ppbv)  40 40 40 40 40 40 40 40 40 40 40 40 40	(ppbv)         (ppbv)           40         7300           40         71           40         790           40         2300           40         220           40         770           40         160           40         74           40         110           40         290           40         78	(ppbv)         (ppbv)         (uG/m3)           40         7300         100           40         71         160           40         790         140           40         2300         160           40         220         140           40         770         130           40         160         160           40         74         150           40         110         270           40         290         180           40         78         240

Client Sample ID: SV-2 Wiese

Lab ID#: 0611634BR1-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	160	1400	410	3500
Hexane	160	2400	570	8600



## Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

#### Client Sample ID: SV-2 Wiese

Lab ID#: 0611634BR1-02A				
Cyclohexane	160	600	550	2100
Benzene	160	240	510	780
Heptane	160	820	660	3400
Chlorobenzene	160	1700	740	8000
1,2-Dichlorobenzene	160	260	970	1600
Naphthalene	640	3200	3400	17000

#### Client Sample ID: SV-2 Wiese

Lab ID#: 0611634BR1-02B

ab 1D#: 0011034BK1-02B	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(uG/m3)	(uG/m3)
Vinyl Chloride	13	1200	34	3000
Hexane	13	2200	47	7600
cis-1,2-Dichloroethene	13	51	53	200
Cyclohexane	13	530	46	1800
Benzene	13	240	43	750
Heptane	13	650	55	2700
Trichloroethene	13	64	72	340
Toluene	13	82	50	310
Tetrachloroethene	13	56	91	380
Chlorobenzene	13	1600	62	7300
Ethyl Benzene	13	61	58	270
m,p-Xylene	13	76	58	330
o-Xylene	13	37	58	160
4-Ethyltoluene	13	16	66	78
1,4-Dichlorobenzene	13	100	80	630
1,2-Dichlorobenzene	13	300	80	1800
1,2,4-Trichlorobenzene	54	170	400	1300
Naphthalene	54	3600 E	280	19000 E



#### Client Sample ID: SV-1 Wiese Lab ID#: 0611634BR1-01A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	8121529 80.5		Date of Collection: 11/29/06 Date of Analysis: 12/16/06 06:42 AM		
的。 1985年 - 《大學·斯特·斯特·斯特·斯特·斯特·斯特·斯特·斯特·斯特·斯特·斯特·斯特·斯特·	Rpt. Limit	Amount	Rpt. Limit	Amount	
Compound	(ppbv)	(ppbv)	(uG/m3)	(uG/m3)	
Freon 12	40	Not Detected	200	Not Detected	
Freon 114	40	Not Detected	280	Not Detected	
Chloromethane	160	Not Detected	330	Not Detected	
Vinyl Chloride	40	9100	100	23000	
1,3-Butadiene	40	Not Detected	89	Not Detected	
Bromomethane	40	Not Detected	160	Not Detected	
Chloroethane	40	Not Detected	110	Not Detected	
Freon 11	40	Not Detected	230	Not Detected	
Ethanol	160	Not Detected	300	Not Detected	
Freon 113	40	Not Detected	310	Not Detected	
1,1-Dichloroethene	40	Not Detected	160	Not Detected	
Acetone	160	Not Detected	380	Not Detected	
2-Propanol	160	Not Detected	400	Not Detected	
Carbon Disulfide	40	Not Detected	120	Not Detected	
Methylene Chloride	40	Not Detected	140	Not Detected	
Methyl tert-butyl ether	40	Not Detected U J	140	Not Detected U J	
trans-1,2-Dichloroethene	40	78	160	310	
Hexane	40	960	140	3400	
1,1-Dichloroethane	40	Not Detected	160	Not Detected	
2-Butanone (Methyl Ethyl Ketone)	40	Not Detected	120	Not Detected	
cis-1,2-Dichloroethene	40	2800	160	11000	
Tetrahydrofuran	40	Not Detected	120	Not Detected	
Chloroform	40	Not Detected	200	Not Detected	
1,1,1-Trichloroethane	40	Not Detected	220	Not Detected	
Cyclohexane	40	260	140	910	
Carbon Tetrachloride	40	Not Detected	250	Not Detected	
Benzene	40	920	130	3000	
	40	190	160	790	
Heptane	40	Not Detected	190	Not Detected	
1,2-Dichloropropane 1,4-Dioxane	160	Not Detected	580	Not Detected	
Bromodichloromethane	40	Not Detected	270	Not Detected	
	40	Not Detected	180	Not Detected	
cis-1,3-Dichloropropene	40	Not Detected	160	Not Detected	
4-Methyl-2-pentanone Toluene	40	76	150	290	
trans-1,3-Dichloropropene	40	Not Detected	180	Not Detected	
1,1,2-Trichloroethane	40	Not Detected	220	Not Detected	
Tetrachloroethene	40	130	270	890	
2-Hexanone	160	Not Detected	660	Not Detected	
Z-Hexanone Dibromochloromethane	40	Not Detected	340	Not Detected	



#### Client Sample ID: SV-1 Wiese Lab ID#: 0611634BR1-01A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	8121529 80.5		Date of Collection: 11/29/06 Date of Analysis: 12/16/06 06:42 AM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Chlorobenzene	40	340	180	1600
Ethyl Benzene	40	Not Detected	170	Not Detected
m,p-Xylene	40	Not Detected	170	Not Detected
o-Xylene	40	Not Detected	170	Not Detected
Styrene	40	Not Detected	170	Not Detected
Bromoform	40	Not Detected	420	Not Detected
Cumene	40	Not Detected	200	Not Detected
Propylbenzene	40	Not Detected	200	Not Detected
4-Ethyltoluene	40	Not Detected	200	Not Detected
1,3,5-Trimethylbenzene	40	Not Detected	200	Not Detected
1,2,4-Trimethylbenzene	40	Not Detected	200	Not Detected
1,3-Dichlorobenzene	40	82	240	490
1,4-Dichlorobenzene	40	180	240	1100
alpha-Chlorotoluene	40	Not Detected	210	Not Detected
1,2-Dichlorobenzene	40	Not Detected	240	Not Detected
1,2,4-Trichlorobenzene	160	Not Detected	1200	Not Detected
Hexachlorobutadiene	160	Not Detected	1700	Not Detected
Naphthalene	160	Not Detected	840	Not Detected
1,1,1,2-Tetrachloroethane	160	Not Detected	1100	Not Detected
1,2,3-Trichloropropane	160	Not Detected	970	Not Detected
Acetonitrile	400	Not Detected	680	Not Detected
Butylbenzene	160	Not Detected	880	Not Detected
Dibromomethane	160	Not Detected	1100	Not Detected
Ethyl Acetate	160	Not Detected	580	Not Detected
sec-Butylbenzene	160	Not Detected	880	Not Detected
Vinyl Acetate	160	Not Detected	570	Not Detected

UJ = Non-detected compound associated with low bias in the CCV

Q = Exceeds Quality Control limits of 70% to 130%, due to matrix effects Container Type: 6 Liter Summa Special (100% Certified)

	·	Method	
Surrogates	%Recovery	Limits	
Toluene-d8	92	70-130	
1,2-Dichloroethane-d4	132 Q	70-130	
4-Bromofluorobenzene	105	70-130	



#### Client Sample ID: SV-1 Wiese Duplicate

#### Lab ID#: 0611634BR1-01AA

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	8121530 80.5		Date of Collection Date of Analysis:	tion: 11/29/06 sis: 12/16/06 07:12 AM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)	
Freon 12	40	Not Detected	200	Not Detected	
Freon 114	40	Not Detected	280	Not Detected	
Chloromethane	160	Not Detected	330	Not Detected	
Vinyl Chloride	40	7300	100	19000	
1,3-Butadiene	40	Not Detected	89	Not Detected	
Bromomethane	40	Not Detected	160	Not Detected	
Chloroethane	40	Not Detected	110	Not Detected	
Freon 11	40	Not Detected	230	Not Detected	
Ethanol	160	Not Detected	300	Not Detected	
Freon 113	40	Not Detected	310	Not Detected	
1,1-Dichloroethene	40	Not Detected	160	Not Detected	
Acetone	160	Not Detected	380	Not Detected	
2-Propanol	160	Not Detected	400	Not Detected	
Carbon Disulfide	40	Not Detected	120	Not Detected	
Methylene Chloride	40	Not Detected	140	Not Detected	
Methyl tert-butyl ether	40	Not Detected U J	140	Not Detected U J	
trans-1,2-Dichloroethene	40	71	160	280	
Hexane	40	790	140	2800	
1,1-Dichloroethane	40	Not Detected	160	Not Detected	
2-Butanone (Methyl Ethyl Ketone)	40	Not Detected	120	Not Detected	
and the commence of the commen	40	2300	160	9200	
cis-1,2-Dichloroethene	40	Not Detected	120	Not Detected	
Tetrahydrofuran Chloroform	40	Not Detected	200	Not Detected	
	40	Not Detected	220	Not Detected	
1,1,1-Trichloroethane	40	220	140	750	
Cyclohexane	40	Not Detected	250	Not Detected	
Carbon Tetrachloride	40	770	130	2500	
Benzene	40	160	160	640	
Heptane	40	Not Detected	190	Not Detected	
1,2-Dichloropropane	160	Not Detected	580	Not Detected	
1,4-Dioxane	40	Not Detected	270	Not Detected	
Bromodichloromethane	40	Not Detected	180	Not Detected	
cis-1,3-Dichloropropene	40	Not Detected	160	Not Detected	
4-Methyl-2-pentanone	40	74	150	280	
Toluene	40	Not Detected	180	Not Detected	
trans-1,3-Dichloropropene	40	Not Detected	220	Not Detected	
1,1,2-Trichloroethane	40	110	270	780	
Tetrachloroethene	40 160	Not Detected	660	Not Detected	
2-Hexanone	40	Not Detected	340	Not Detected	
Dibromochloromethane	40	NOT DETECTED	340	1401 Deleoidd	



#### Client Sample ID: SV-1 Wiese Duplicate

#### Lab ID#: 0611634BR1-01AA

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: DII. Factor:	8121530 80.5		Date of Collection: Date of Analysis:	12/16/06 07:12 AM
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Chlorobenzene	40	290	180	1300
Ethyl Benzene	40	Not Detected	170	Not Detected
m,p-Xylene	40	Not Detected	170	Not Detected
o-Xylene	40	Not Detected	170	Not Detected
Styrene	40	Not Detected	170	Not Detected
Bromoform	40	Not Detected	420	Not Detected
Cumene	40	Not Detected	200	Not Detected
Propylbenzene	40	Not Detected	200	Not Detected
4-Ethyltoluene	40	Not Detected	200	Not Detected
1,3,5-Trimethylbenzene	40	Not Detected	200	Not Detected
1,2,4-Trimethylbenzene	40	Not Detected	200	Not Detected
1,3-Dichlorobenzene	40	78	240	470
1,4-Dichlorobenzene	40	170	240	1000
alpha-Chlorotoluene	40	Not Detected	210	Not Detected
1,2-Dichlorobenzene	40	Not Detected	240	Not Detected
1,2,4-Trichlorobenzene	160	Not Detected	1200	Not Detected
Hexachlorobutadiene	160	Not Detected	1700	Not Detected
Naphthalene	160	Not Detected	840	Not Detected
1,1,1,2-Tetrachloroethane	160	Not Detected	1100	Not Detected
1,2,3-Trichloropropane	160	Not Detected	970	Not Detected
Acetonitrile	400	Not Detected	680	Not Detected
Butylbenzene	160	Not Detected	880	Not Detected
Dibromomethane	160	Not Detected	1100	Not Detected
Ethyl Acetate	160	Not Detected	580	Not Detected
sec-Butylbenzene	160	Not Detected	880	Not Detected
Vinyl Acetate	160	Not Detected	570	Not Detected

UJ = Non-detected compound associated with low bias in the CCV

#### Container Type: 6 Liter Summa Special (100% Certified)

Contamor Typo, o Ener Danima Opera. (	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Method
Surrogates	%Recovery	Limits
Toluene-d8	92	70-130
1,2-Dichloroethane-d4	127	70-130
4-Bromofluorobenzene	98	70-130



#### Client Sample ID: SV-2 Wiese Lab ID#: 0611634BR1-02A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	8121531 322		Date of Collection Date of Analysis:	ALCO CALCULATION OF THE PROPERTY OF THE PROPER
Control of the American Profession and Control of the Control of t	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(uG/m3)	(uG/m3)
Freon 12	160	Not Detected	800	Not Detected
Freon 114	160	Not Detected	1100	Not Detected
Chloromethane	640	Not Detected	1300	Not Detected
Vinyl Chloride	160	1400	410	3500
1,3-Butadiene	160	Not Detected	360	Not Detected
Bromomethane	160	Not Detected	620	Not Detected
Chloroethane	160	Not Detected	420	Not Detected
Freon 11	160	Not Detected	900	Not Detected
Ethanol	640	Not Detected	1200	Not Detected
Freon 113	160	Not Detected	1200	Not Detected
1,1-Dichloroethene	160	Not Detected	640	Not Detected
Acetone	640	Not Detected	1500	Not Detected
2-Propanol	640	Not Detected	1600	Not Detected
Carbon Disulfide	160	Not Detected	500	Not Detected
Methylene Chloride	160	Not Detected	560	Not Detected
Methyl tert-butyl ether	160	Not Detected U J	580	Not Detected U J
trans-1,2-Dichloroethene	160	Not Detected	640	Not Detected
Hexane	160	2400	570	8600
1,1-Dichloroethane	160	Not Detected	650	Not Detected
2-Butanone (Methyl Ethyl Ketone)	160	Not Detected	470	Not Detected
cis-1,2-Dichloroethene	160	Not Detected	640	Not Detected
Tetrahydrofuran	160	Not Detected	470	Not Detected
Chloroform	160	Not Detected	790	Not Detected
1,1,1-Trichloroethane	160	Not Detected	880	Not Detected
Cyclohexane	160	600	550	2100
Carbon Tetrachloride	160	Not Detected	1000	Not Detected
Benzene	160	240	510	780
1,2-Dichloroethane	160	Not Detected	650	Not Detected
Heptane	160	820	660	3400
Trichloroethene	160	Not Detected	860	Not Detected
1,2-Dichloropropane	160	Not Detected	740	Not Detected
1,4-Dioxane	640	Not Detected	2300	Not Detected
Bromodichloromethane	160	Not Detected	1100	Not Detected
cis-1,3-Dichloropropene	160	Not Detected	730	Not Detected
4-Methyl-2-pentanone	160	Not Detected	660	Not Detected
Toluene	160	Not Detected	610	Not Detected
trans-1,3-Dichloropropene	160	Not Detected	730	Not Detected
1,1,2-Trichloroethane	160	Not Detected	880	Not Detected
Tetrachloroethene	160	Not Detected	1100	Not Detected



#### Client Sample ID: SV-2 Wiese Lab ID#: 0611634BR1-02A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	8121531 322		Date of Collection: 11/29/06  Date of Analysis: 12/16/06 07:42 AM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	640	Not Detected	2600	Not Detected
Dibromochloromethane	160	Not Detected	1400	Not Detected
1,2-Dibromoethane (EDB)	160	Not Detected	1200	Not Detected
Chlorobenzene	160	1700	740	8000
Ethyl Benzene	160	Not Detected	700	Not Detected
m,p-Xylene	160	Not Detected	700	Not Detected
o-Xylene	160	Not Detected	700	Not Detected
Styrene	160	Not Detected	680	Not Detected
Bromoform	160	Not Detected	1700	Not Detected
Cumene	160	Not Detected	790	Not Detected
1,1,2,2-Tetrachloroethane	160	Not Detected	1100	Not Detected
Propylbenzene	160	Not Detected	790	Not Detected
4-Ethyltoluene	160	Not Detected	790	Not Detected
1,3,5-Trimethylbenzene	160	Not Detected	790	Not Detected
1,2,4-Trimethylbenzene	160	Not Detected	790	Not Detected
1,3-Dichlorobenzene	160	Not Detected	970	Not Detected
1,4-Dichlorobenzene	160	Not Detected	970	Not Detected
alpha-Chlorotoluene	160	Not Detected	830	Not Detected
1,2-Dichlorobenzene	160	260	970	1600
1,2,4-Trichlorobenzene	640	Not Detected	4800	Not Detected
Hexachlorobutadiene	640	Not Detected	6900	Not Detected
Naphthalene	640	3200	3400	17000
1,1,1,2-Tetrachloroethane	640	Not Detected	4400	Not Detected
1,2,3-Trichloropropane	640	Not Detected	3900	Not Detected
Acetonitrile	1600	Not Detected	2700	Not Detected
Butylbenzene	640	Not Detected	3500	Not Detected
Dibromomethane	640	Not Detected	4600	Not Detected
Ethyl Acetate	640	Not Detected	2300	Not Detected
sec-Butylbenzene	640	Not Detected	3500	Not Detected
Vinyl Acetate	640	Not Detected	2300	Not Detected

UJ = Non-detected compound associated with low bias in the CCV

#### Container Type: 6 Liter Summa Special (100% Certified)

Container Type: C Enter Currint Operator (	, , , , , , , , , , , , , , , , , , , ,	Method
Surrogates	%Recovery	Limits
Toluene-d8	90	70-130
1,2-Dichloroethane-d4	110	70-130
4-Bromofluorobenzene	102	70-130



#### Client Sample ID: SV-2 Wiese Lab ID#: 0611634BR1-02A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: 8121531 Date of Collection: 11/29/06
Dil. Factor: 322 Date of Analysis: 12/16/06 07:42 AM



#### Client Sample ID: SV-2 Wiese Lab ID#: 0611634BR1-02B

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor;	8121533 26.8		Date of Collection Date of Analysis:	
AND THE MANAGEMENT OF THE PROPERTY OF THE PROP	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(uG/m3)	(uG/m3)
Freon 12	13	Not Detected	66	Not Detected
Freon 114	13	Not Detected	94	Not Detected
Chloromethane	54	Not Detected	110	Not Detected
Vinyl Chloride	13	1200	34	3000
1,3-Butadiene	13	Not Detected	30	Not Detected
Bromomethane	13	Not Detected	52	Not Detected
Chloroethane	13	Not Detected	35	Not Detected
Freon 11	13	Not Detected	75	Not Detected
Ethanol	54	Not Detected	100	Not Detected
Freon 113	13	Not Detected	100	Not Detected
1,1-Dichloroethene	13	Not Detected	53	Not Detected
Acetone	54	Not Detected	130	Not Detected
2-Propanol	54	Not Detected	130	Not Detected
Carbon Disulfide	13	Not Detected	42	Not Detected
Methylene Chloride	13	Not Detected	46	Not Detected
Methyl tert-butyl ether	13	Not Detected U J	48	Not Detected U J
trans-1,2-Dichloroethene	13	Not Detected	53	Not Detected
Hexane	13	2200	47	7600
1,1-Dichloroethane	13	Not Detected	54	Not Detected
2-Butanone (Methyl Ethyl Ketone)	13	Not Detected	40	Not Detected
cis-1,2-Dichloroethene	13	51	53	200
Tetrahydrofuran	13	Not Detected	40	Not Detected
Chloroform	13	Not Detected	65	Not Detected
1,1,1-Trichloroethane	13	Not Detected	73	Not Detected
Cyclohexane	13	530	46	1800
Carbon Tetrachloride	13	Not Detected	84	Not Detected
Benzene	13	240	43	750
1,2-Dichloroethane	13	Not Detected	54	Not Detected
Heptane	13	650	55	2700
Trichloroethene	13	64	72	340
1,2-Dichloropropane	13	Not Detected	62	Not Detected
1.4-Dioxane	54	Not Detected	190	Not Detected
Bromodichloromethane	13	Not Detected	90	Not Detected
cis-1,3-Dichloropropene	13	Not Detected	61	Not Detected
4-Methyl-2-pentanone	13	Not Detected	55	Not Detected
Toluene	13	82	50	310
trans-1,3-Dichloropropene	13	Not Detected	61	Not Detected
1,1,2-Trichloroethane	13	Not Detected	73	Not Detected
Tetrachloroethene	13	56	91	380



#### Client Sample ID: SV-2 Wiese Lab ID#: 0611634BR1-02B

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	8121533 26.8		Date of Collection: Date of Analysis: 1	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	54	Not Detected	220	Not Detected
Dibromochloromethane	13	Not Detected	110	Not Detected
1,2-Dibromoethane (EDB)	13	Not Detected	100	Not Detected
Chlorobenzene	13	1600	62	7300
Ethyl Benzene	13	61	58	270
m,p-Xylene	13	76	58	330
o-Xylene	13	37	58	160
Styrene	13	Not Detected	57	Not Detected
Bromoform	13	Not Detected	140	Not Detected
Cumene	13	Not Detected	66	Not Detected
1.1.2.2-Tetrachloroethane	13	Not Detected	92	Not Detected
Propylbenzene	13	Not Detected	66	Not Detected
4-Ethyltoluene	13	16	66	78
1,3,5-Trimethylbenzene	13	Not Detected	66	Not Detected
1,2,4-Trimethylbenzene	13	Not Detected	66	Not Detected
1,3-Dichlorobenzene	13	Not Detected	80	Not Detected
1.4-Dichlorobenzene	13	100	80	630
alpha-Chlorotoluene	13	Not Detected	69	Not Detected
1,2-Dichlorobenzene	13	300	80	1800
1.2.4-Trichlorobenzene	54	170	400	1300
Hexachlorobutadiene	54	Not Detected	570	Not Detected
Naphthalene	54	3600 E	280	19000 E
1,1,1,2-Tetrachloroethane	54	Not Detected	370	Not Detected
1,2,3-Trichloropropane	54	Not Detected	320	Not Detected
Acetonitrile	130	Not Detected	220	Not Detected
Butylbenzene	54	Not Detected	290	Not Detected
Dibromomethane	54	Not Detected	380	Not Detected
Ethyl Acetate	54	Not Detected	190	Not Detected
sec-Butylbenzene	54	Not Detected	290	Not Detected
Vinyl Acetate	54	Not Detected	190	Not Detected

UJ = Non-detected compound associated with low bias in the CCV

E = Exceeds instrument calibration range.
Container Type: 6 Liter Summa Special (100% Certified)

••	•	Method
Surrogates	%Recovery	Limits
Toluene-d8	91	70-130
1,2-Dichloroethane-d4	85	70-130
4-Bromofluorobenzene	106	70-130



#### Client Sample ID: SV-2 Wiese Lab ID#: 0611634BR1-02B

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

	8121533 Date of Collection: 11/29/06
File Name:	8121533 Date of Collection: 11/29/06
	26.8 Date of Analysis: 12/16/06 09:16 AM
I Dil. Factor:	ZON
FUNCTONIA CONTRACTOR OF THE PROPERTY OF THE PR	



#### Client Sample ID: Lab Blank Lab ID#: 0611634BR1-03A

File Name: Dil. Factor:	8121512 1.00		Date of Collection Date of Analysis:	12/15/06 05:31 PM
	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(uG/m3)	(uG/m3)
Freon 12	0 50	Not Detected	2 5	Not Detected
Freon 114	050	Not Detected	3.5	Not Detected
Chloromethane	2.0	Not Detected	4.1	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	0.50	Not Detected	1.9	Not Detected
Chloroethane	0 50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3 8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	2.0	Not Detected	4.8	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	0.50	Not Detected	16	Not Detected
Methylene Chloride	050	Not Detected	1.7	Not Detected
Methyl tert-butyl ether	0 50	Not Detected U J	1.8	Not Detected U J
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	15	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1 7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2 0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3 4	Not Detected



#### Client Sample ID: Lab Blank Lab ID#: 0611634BR1-03A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	8121512 1.00			Date of Collection: NA Date of Analysis: 12/15/06 05:31 PM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)	
2-Hexanone	2.0	Not Detected	8.2	Not Detected	
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected	
1,2-Dibromoethane (EDB)	0.50	Not Detected	38	Not Detected	
Chlorobenzene	0 50	Not Detected	2.3	Not Detected	
Ethyl Benzene	0 50	Not Detected	2.2	Not Detected	
m,p-Xylene	0.50	Not Detected	2.2	Not Detected	
o-Xylene	050	Not Detected	2.2	Not Detected	
Styrene	0.50	Not Detected	2.1	Not Detected	
Bromoform	0.50	Not Detected	5 2	Not Detected	
Cumene	0.50	Not Detected	2.4	Not Detected	
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected	
Propylbenzene	0 50	Not Detected	2.4	Not Detected	
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected	
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected	
1,2,4-Trimethylbenzene	0 50	Not Detected	2.4	Not Detected	
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected	
1.4-Dichlorobenzene	0.50	Not Detected	30	Not Detected	
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected	
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected	
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected	
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected	
Naphthalene	2.0	Not Detected	10	Not Detected	
1,1,1,2-Tetrachloroethane	2.0	Not Detected	14	Not Detected	
1,2,3-Trichloropropane	2.0	Not Detected	12	Not Detected	
Acetonitrile	5.0	Not Detected	8.4	Not Detected	
Butylbenzene	2.0	Not Detected	11	Not Detected	
Dibromomethane	20	Not Detected	14	Not Detected	
Ethyl Acetate	20	Not Detected	7.2	Not Detected	
sec-Butylbenzene	20	Not Detected	11	Not Detected	
Vinyl Acetate	2.0	Not Detected	7.0	Not Detected	

UJ = Non-detected compound associated with low bias in the CCV

Container Type: NA - Not Applicable

Containor Typo, tax Trott Applicable		Method
Surrogates	%Recovery	Limits
Toluene-d8	91	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	98	70-130



#### Client Sample ID: Lab Blank Lab ID#: 0611634BR1-03A

			Date of Collection: NA
File Name:	812151		
Dil. Factor:		00	Date of Analysis: 12/15/06 05:31 PM



#### Client Sample ID: CCV Lab ID#: 0611634BR1-04A

	502 Date of Collection: NA
File Name: 81215	
Dil. Factor:	.00 Date of Analysis: 12/15/06 10:00 AM

Compound	%Recovery
Freon 12	85
Freon 114	104
Chloromethane	116
Vinyl Chloride	102
1,3-Butadiene	104
Bromomethane	88
Chloroethane	. 101
Freon 11	92
Ethanol	109
Freon 113	105
1,1-Dichloroethene	94
Acetone	101
2-Propanol	99
Carbon Disulfide	93
Methylene Chloride	102
Methyl tert-butyl ether	62 Q
trans-1,2-Dichloroethene	88
Hexane	95
1,1-Dichloroethane	92
2-Butanone (Methyl Ethyl Ketone)	76
cis-1,2-Dichloroethene	87
Tetrahydrofuran	84
Chloroform	89
1,1,1-Trichloroethane	85
Cyclohexane	82
Carbon Tetrachloride	89
Benzene	80
1,2-Dichloroethane	98
Heptane	83
Trichloroethene	92
1,2-Dichloropropane	80
1,4-Dioxane	75
Bromodichloromethane	91
cis-1,3-Dichloropropene	84
4-Methyl-2-pentanone	88
Toluene	83
trans-1,3-Dichloropropene	100
1,1,2-Trichloroethane	89
Tetrachloroethene	99



#### Client Sample ID: CCV

#### Lab ID#: 0611634BR1-04A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: 8121502 Date of Collection: NA	
File Name: 8121502 Date of Collection: NA	
File Name: 8121502 Date of Collection, NA	
Dil Factor: 1.00 Date of Analysis: 12/1	
Dil Factor: 1.00 Date of Analysis. 12/13	

Compound	%Recovery
2-Hexanone	90
Dibromochloromethane	109
1,2-Dibromoethane (EDB)	98
Chlorobenzene	86
Ethyl Benzene	93
m,p-Xylene	87
o-Xylene	94
Styrene	94
Bromoform	110
Cumene	91
1,1,2,2-Tetrachloroethane	84
Propylbenzene	94
4-Ethyltoluene	98
1,3,5-Trimethylbenzene	101
1,2,4-Trimethylbenzene	93
1,3-Dichlorobenzene	96
1,4-Dichlorobenzene	101
alpha-Chlorotoluene	98
1,2-Dichlorobenzene	94
1,2,4-Trichlorobenzene	82
Hexachlorobutadiene	98
Naphthalene	74
1,1,1,2-Tetrachloroethane	106
1,2,3-Trichloropropane	97
Acetonitrile	91
Butylbenzene	99
Dibromomethane	93
Ethyl Acetate	89
sec-Butylbenzene	97
Vinyl Acetate	88

#### Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	92	70-130
1.2-Dichloroethane-d4	94	70-130
4-Bromofluorobenzene	114	70-130



#### Client Sample ID: CCV Lab ID#: 0611634BR1-04A

		llection: NA
I File Name:	121502	
	1.00	alysis: 12/15/06 10:00 AM
Dil. Factor:		



#### Client Sample ID: LCS Lab ID#: 0611634BR1-05A

File Name:	8121503 Date of Collection: NA
Dil. Factor:	1.00 Date of Analysis: 12/15/06 10:36 AM
	是一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个

Compound	%Recovery
Freon 12	85
Freon 114	104
Chloromethane	116
Vinyl Chloride	103
1,3-Butadiene	104
Bromomethane	90
Chloroethane	104
Freon 11	91
Ethanol	114
Freon 113	105
1,1-Dichloroethene	94
Acetone	101
2-Propanol	105
Carbon Disulfide	96
Methylene Chloride	102
Methyl tert-butyl ether	83
trans-1,2-Dichloroethene	91
Hexane	98
1,1-Dichloroethane	94
2-Butanone (Methyl Ethyl Ketone)	78
cis-1,2-Dichloroethene	92
Tetrahydrofuran	86
Chloroform	89
1,1,1-Trichloroethane	86
Cyclohexane	84
Carbon Tetrachloride	93
Benzene	84
1,2-Dichloroethane	102
Heptane	88
Trichloroethene	96
1,2-Dichloropropane	86
1,4-Dioxane	82
Bromodichloromethane	90
cis-1,3-Dichloropropene	58 Q
4-Methyl-2-pentanone	89
Toluene	89
trans-1,3-Dichloropropene	99
1,1,2-Trichloroethane	95
Tetrachloroethene	105



#### Client Sample ID: LCS Lab ID#: 0611634BR1-05A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Ello Name: 8121503 Date of Collection: NA	
File Name: 8121503 Date of Collection: NA	
File Name: 8121503 Date of Collection. NA	
Dil, Factor: 1.00 Date of Analysis: 12/15/06 10	

Compound	%Recovery
2-Hexanone	92
Dibromochloromethane	97
1,2-Dibromoethane (EDB)	98
Chlorobenzene	95
Ethyl Benzene	106
m,p-Xylene	90
o-Xylene	86
Styrene	88
Bromoform	85
Cumene	89
1,1,2,2-Tetrachloroethane	94
Propylbenzene	92
4-Ethyltoluene	98
1,3,5-Trimethylbenzene	89
1,2,4-Trimethylbenzene	66 Q
1,3-Dichlorobenzene	111
1,4-Dichlorobenzene	112
alpha-Chlorotoluene	100
1,2-Dichlorobenzene	110
1,2,4-Trichlorobenzene	118
Hexachlorobutadiene	115
Naphthalene	98
1,1,1,2-Tetrachloroethane	Not Spiked
1,2,3-Trichloropropane	Not Spiked
Acetonitrile	Not Spiked
Butylbenzene	Not Spiked
Dibromomethane	Not Spiked
Ethyl Acetate	Not Spiked
sec-Butylbenzene	Not Spiked
Vinyl Acetate	90

## Q = Exceeds Quality Control limits Container Type: NA - Not Applicable

Container Type: 147 Processpinous:		Method
Surrogates	%Recovery	Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	107	70-130



#### Client Sample ID: LCS Lab ID#: 0611634BR1-05A

File Name: 8121503 Date of	Collection: NA
Dil. Factor: 1.00 Date of a	Analysis: 12/15/06 10:36 AM

# AIR TOXICS LTD. AN ENVIRONMENTAL ANALYTICAL LABORATORY

CHAIN-OF-CUSTODY RECORD Sample Transportation Notice

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnity Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples, D.O.T. Hotline (800) 467-4922.

Lab Shipper Name Air Bill.# Use Cul GX 8598 6477 [	Relinquished by: (signature) Date/Time	Relinquished by: (signature) Date/Time	30				A 1 (1) (1) (1) (1) (1) (1) (1) (1) (1) (		1	DIA SV-1 WIESO RGK	Lab I.D. Field Sample I.D. (Location) Can#	A 100 100 100 100 100 100 100 100 100 10	تلاما	Phone 636-724-9191 Fax 636-724-9323	Address & 20 S. Main St City St. Charles State (NO Zip 6330)	Company (Toldes Associates Email ) cumile 18 yelles conv	Contact Person JUSHIV White
8911	Rec	Rec	7/0 Rec					•	<b>E E</b>	7	Date			16t-	28 State	رسامهم	
×	erved by	eived by	eived by			 		-	29/06	29/06	ਰ 			9	<b>X</b>	600	
Temp (°C)	Received by: (signature) Date/Time	Received by: (signature) Date/Time	11 7 Received by: (signature)						847411 M29/06 1548	96107 11/29/06 1208	Time			\$23 3	Tip 6330	oldes, com	:
Candition Custome	Date/Time	Date/Time \						t.		To-15 HILD (golder guole)	Analyses Requested		Project Name Sama Plant Event -	5	5.0. # O-13		Project Info:
No None									C. 55 9	) 29,5	Initial	Canis	specify	☐ Rush	Normal	i ilie:	Turn Around
06 Wo									C'S	0.5	Final	ster Pre		Press	Date:	Press	
Work Order # 0611634								Ψ.	SORM	5.0%	Receipt	Canister Pressure/Vacuum	$\left( N_{2} ight)$ . He	Pressurization Gas	KH1	Pressurized by:	Only
#-					1 1 1 1				1	5.005	Final (ps)	E B		S	0		

Company Name: Golder Associates  Project Name: Solutia Soil Vapor Sampling =  Reviewer: J. White  Laboratory: Air Toxics LTD  Analytical Method (type and no): TO-15 full =  Matrix: Air Soil/Sed Water Waste  Sample Names 5 V - 3	<del></del>	Project Valida SDG #	et Number:_ ution Date:_ #:0 61	M. Haddock 043-9670 1/11/07 2090
NOTE: Please provide calculation in Comment areas or	on the b	ack (if oi	ո the back բ	please indicate in comment areas).
Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?				
b) Sampling team indicated?				4-
c) Sample location noted?				
d) Sample depth indicated (Soils)?	Town Towns			
e) Sample type indicated (grab/composite)?				
f) Field QC noted?				
g) Field parameters collected (note types)?				AD
h) Field Calibration within control limits?	The same of the sa			
i) Notations of unacceptable field conditions/performar	nces fron	n field log	s or field no	tes?
<ul><li>j) Does the laboratory narrative indicate deficiencies?</li><li>Note Deficiencies:</li></ul>				
Chain-of-Custody (COC)	YES	NO	NA	COMMENTS
a) Was the COC properly completed?				
b) Was the COC signed by both field	A Shill are the same			
and laboratory personnel?				
c) Were samples received in good condition?				
General (reference QAPP or Method)	YES	NO	NA	COMMENTS
a) Were hold times met for sample pretreatment?				HT=1410
b) Were hold times met for sample analysis?				HT=10D
c) Were the correct preservatives used?				
d) Was the correct method used?				
e) Were appropriate reporting limits achieved?		$\square$		high
f) Were any sample dilutions noted?				<u> </u>
g) Were any matrix problems noted?	П	18 Paris		

Blanks		YES	NO	NA	COMMENTS
a)	Were analytes detected in the method blank(s)?				
b)	Were analytes detected in the field blank(s)?				
c)	Were analytes detected in the equipment blank(s)?	W room			no qualifiers (5x rule)
d)	Were analytes detected in the trip blank(s)?			V	0
Labora	tory Control Sample (LCS)	YES	NO	NA	COMMENTS
a)	Was a LCS analyzed once per SDG?				
b)	Were the proper compounds included in the LCS?	V			no beleets
c)	Was the LCS accuracy criteria met?		$ \mathbf{Z}^{\mathbf{r}} $		Cis-1,3-Dichloropropene
٠,	,				1,2,4-Trimetry/henzene
Duplic	ates	YES	NO	NA	COMMENTS
a)	Were field duplicates collected (note original and do	uplicate	sample ŋ	james)?	
			9		
b)	Were field dup precision criteria met (note RPD)?			9	
c)	Were lab duplicates analyzed (note original and du	plicate s	amples)?	?	
			3 may be served.		
d)	Were lab dup, precision criteria met (note RPD)?			Service Control of the Control of th	
Blind S	Standards	YES	NO	NA	COMMENTS
a)	Was a blind standard used (indicate name,			<b>I</b>	
/	compounds included and concentrations)?				
b)	Was the %D within control limits?			<u> </u>	
Matrix	Spike/Matrix Spike Duplicate (MS/MSD)	YES	NO	NA	COMMENTS
a)	Was MS accuracy criteria met?				
	Recovery could not be calculated since sample contained high concentration of analyte?			<b>9</b>	
b)	Was MSD accuracy criteria met?			g	
	Recovery could not be calculated since sample contained high concentration of analyte?				
c)	Were MS/MSD precision criteria met?				
Surrog	rate Spikes	YES	NO	NA	COMMENTS
a)	Were surrogate recoveries within control limits?				
b)	Were surrogate recoveries not calculated due to dilutions?				
Comm	ents/Notes:				
			W-4-100-700		

#### Data Qualification:

Constituent(s)	Result	Qualifier	Reason
hex			
		:	
A A A A A A A A A A A A A A A A A A A			
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A TANAN MANAGEMENT OF THE PROPERTY OF THE PROP			
	Constituent(s)		i i i i i i i i i i i i i i i i i i i

Signature: White With the Signature of t

Date: 1/1/07



#### **WORK ORDER #:** 0612090

Work Order Summary

CLIENT:

Mr. Mark Haddock

BILL TO: Mr. Mark Haddock

Golder Associates, Inc.

Golder Associates, Inc 820 South Main Street

820 South Main Street Suite 100 St. Charles, MO 63301

Suite 100

St. Charles, MO 63301

PHONE:

(636)-724-9191

P.O. # 043-9670

FAX:

(636-724-9323

PROJECT#

043-9670 Solutia Soil Vapor Sampling

DATE RECEIVED: DATE COMPLETED: 12/05/2006 12/20/2006

CONTACT:

Event Brandon Dunmore

			RECEIPT
FRACTION #	<u>NAME</u>	<u>TEST</u>	VAC./PRES.
01A	SV-3 Wiese	Modified TO-15	3 0 "Hg
02A	Lab Blank	Modified TO-15	NA
03A	CCV	Modified TO-15	NA
04A	LCS	Modified TO-15	NA

CERTIFIED BY:

Songla) & Fruman

DATE: <u>12/20/06</u>

Laboratory Director

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004

NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,

Accreditation number: E87680, Effective date: 07/01/06, Expiration date: 06/30/07

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630 (916) 985-1000 (800) 985-5955 FAX (916) 985-1020



# LABORATORY NARRATIVE Modified TO-15 Golder Associates, Inc. Workorder# 0612090

One 6 Liter Summa Special (100% Certified) sample was received on December 05, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.2 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

Requirement	TO-15	ATL Modifications
Daily CCV	+- 30% Difference	= 30% Difference with two allowed out up to </=40%; flag and narrate outliers</td
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request
Method Detection Limit	Follow 40CFR Pt.136 App B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

#### **Receiving Notes**

There were no receiving discrepancies.

#### **Analytical Notes**

The reported CCV/LCS for each daily batch may be derived from more than one analytical file due to the client's request for non-standard compounds.

Non-standard compounds may have different acceptance criteria than the standard TO-14A/TO-15 compound list as per contract or verbal agreement.

#### **Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

- B Compound present in laboratory blank greater than reporting limit (background subtraction no performed).
  - J Estimated value.
  - E Exceeds instrument calibration range.
  - S Saturated peak.
  - Q Exceeds quality control limits.
  - U Compound analyzed for but not detected above the reporting limit.



- UJ- Non-detected compound associated with low bias in the CCV
- N The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

- a-File was requantified
- b-File was quantified by a second column and detector
- r1-File was requantified for the purpose of reissue



# Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SV-3 Wiese

Lab ID#: 0612090-01A

	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(uG/m3)	(uG/m3)
Vinyl Chloride	200	9400	510	24000
Carbon Disulfide	200	260	620	820
Hexane	200	2200	700	7900
cis-1,2-Dichloroethene	200	2500	790	9800
Cyclohexane	200	760	680	2600
2,2,4-Trimethylpentane	200	4600	930	22000
Benzene	200	13000	630	42000
Heptane	200	500	810	2000
Trichloroethene	200	1800	1100	9600
Toluene	200	7200	750	27000
Tetrachloroethene	200	5700	1300	38000
Chlorobenzene	200	70000	910	320000
Ethyl Benzene	200	680	860	2900
m,p-Xylene	200	640	860	2800
o-Xylene	200	210	860	920
1,3-Dichlorobenzene	200	600	1200	3600
1,4-Dichlorobenzene	200	6900	1200	42000
1,2-Dichlorobenzene	200	8100	1200	48000



#### Client Sample ID: SV-3 Wiese Lab ID#: 0612090-01A

File Name: Dil. Factor:	8121920 397		Date of Collection: 12/4/06 Date of Analysis: 12/20/06 12:41 AM				
	Rpt. Limit	Amount	Rpt. Limit	Amount			
Compound	(ppbv)	(ppbv)	(uG/m3)	(uG/m3)			
Freon 12	200	Not Detected	980	Not Detected			
Freon 114	200	Not Detected	1400	Not Detected			
Chloromethane	790	Not Detected	1600	Not Detected			
Vinyl Chloride	200	9400	510	24000			
1,3-Butadiene	200	Not Detected	440	Not Detected			
Bromomethane	200	Not Detected	770	Not Detected			
Chloroethane	200	Not Detected	520	Not Detected			
Freon 11	200	Not Detected	1100	Not Detected			
Ethanol	790	Not Detected	1500	Not Detected			
Freon 113	200	Not Detected	1500	Not Detected			
1,1-Dichloroethene	200	Not Detected	790	Not Detected			
Acetone	790	Not Detected	1900	Not Detected			
2-Propanol	790	Not Detected	2000	Not Detected			
Carbon Disulfide	200	260	620	820			
3-Chloropropene	790	Not Detected	2500	Not Detected			
Methylene Chloride	200	Not Detected	690	Not Detected			
Methyl tert-butyl ether	200	Not Detected	720	Not Detected			
rans-1,2-Dichloroethene	200	Not Detected	790	Not Detected			
Hexane	200	2200	700	7900			
1,1-Dichloroethane	200	Not Detected	800	Not Detected			
2-Butanone (Methyl Ethyl Ketone)	200	Not Detected	580	Not Detected			
cis-1,2-Dichloroethene	200	2500	790	9800			
Tetrahydrofuran	200	Not Detected	580	Not Detected			
Chloroform	200	Not Detected	970	Not Detected			
1,1,1-Trichloroethane	200	Not Detected	1100	Not Detected			
Cyclohexane	200	760	680	2600			
Carbon Tetrachloride	200	Not Detected	1200	Not Detected			
2,2,4-Trimethylpentane	200	4600	930	22000			
Benzene	200	13000	630	42000			
1,2-Dichloroethane	200	Not Detected	800	Not Detected			
Heptane	200	500	810	2000			
Frichloroethene	200	1800	1100	9600			
1,2-Dichloropropane	200	Not Detected	920	Not Detected			
1,4-Dioxane	790	Not Detected	2900	Not Detected			
Bromodichloromethane	200	Not Detected	1300	Not Detected			
cis-1,3-Dichloropropene	200	Not Detected	900	Not Detected			
4-Methyl-2-pentanone	200	Not Detected	810	Not Detected			
Toluene	200	7200	750	27000			
rans-1,3-Dichloropropene	200	Not Detected	900	Not Detected			



#### Client Sample ID: SV-3 Wiese Lab ID#: 0612090-01A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	8121920 397			Date of Collection: 12/4/06 Date of Analysis: 12/20/06 12:41 AM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)	
1,1,2-Trichloroethane	200	Not Detected	1100	Not Detected	
Tetrachloroethene	200	5700	1300	38000	
2-Hexanone	790	Not Detected	3200	Not Detected	
Dibromochloromethane	200	Not Detected	1700	Not Detected	
1,2-Dibromoethane (EDB)	200	Not Detected	1500	Not Detected	
Chlorobenzene	200	70000	910	320000	
Ethyl Benzene	200	680	860	2900	
n,p-Xylene	200	640	860	2800	
o-Xylene	200	210	860	920	
Styrene	200	Not Detected	840	Not Detected	
Bromoform	200	Not Detected	2000	Not Detected	
Cumene	200	Not Detected	980	Not Detected	
1,1,2,2-Tetrachloroethane	200	Not Detected	1400	Not Detected	
Propylbenzene	200	Not Detected	980	Not Detected	
4-Ethyltoluene	200	Not Detected	980	Not Detected	
1,3,5-Trimethylbenzene	200	Not Detected	980	Not Detected	
1,2,4-Trimethylbenzene	200	Not Detected	980	Not Detected	
1,3-Dichlorobenzene	200	600	1200	3600	
1,4-Dichlorobenzene	200	6900	1200	42000	
alpha-Chlorotoluene	200	Not Detected	1000	Not Detected	
1.2-Dichlorobenzene	200	8100	1200	48000	
1,2,4-Trichlorobenzene	790	Not Detected	5900	Not Detected	
Hexachlorobutadiene	790	Not Detected	8500	Not Detected	
Naphthalene	790	Not Detected	4200	Not Detected	
1,1,1,2-Tetrachloroethane	790	Not Detected	5400	Not Detected	
1,2,3-Trichloropropane	790	Not Detected	4800	Not Detected	
Acetonitrile	2000	Not Detected	3300	Not Detected	
Butylbenzene	790	Not Detected	4400	Not Detected	
Dibromomethane	790	Not Detected	5600	Not Detected	
Ethyl Acetate	790	Not Detected	2900	Not Detected	
sec-Butylbenzene	790	Not Detected	4400	Not Detected	
Vinyl Acetate	790	Not Detected	2800	Not Detected	

#### Container Type: 6 Liter Summa Special (100% Certified)

Container Type: o Ener Canima epocia. (	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Method Limits
Surrogates	%Recovery	
Toluene-d8	91	70-130
1.2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	108	70-130



#### Client Sample ID: SV-3 Wiese Lab ID#: 0612090-01A

	용 등로 현실 경험 수가 있다. (1915년 1일 전 1915년 1일 전 191	
- [- 프랑막관 프로그램 모습니다]	있는데 하는 사람들은 살 보고 있다면 살 보고 있는 것을 하는데	
File Name:	8121920 Date of Collection: 12/4/06	ें
		0.4
Dil. Factor:	397 Date of Analysis: 12/20/06 12:41 AM	4.4



#### Client Sample ID: Lab Blank Lab ID#: 0612090-02A

File Name: Dil. Factor:	8121910a 1.00		Date of Collection: NA Date of Analysis: 12/19/06 05:04 PM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	2.0	Not Detected	4.1	Not Detected
Vinyl Chloride	0.50	Not Detected	13	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	0.50	Not Detected	1.9	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	2.0	Not Detected	4.8	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	0 50	Not Detected	16	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	0 50	Not Detected	1.7	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
cis-1,2-Dichloroethene	0 50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0 50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3 1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected



Toluene-d8

1,2-Dichloroethane-d4

4-Bromofluorobenzene

AN ENVIRONMENTAL ANALYTICAL LABORATORY

#### Client Sample ID: Lab Blank Lab ID#: 0612090-02A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	8121910a 1,00		Date of Collection: NA Date of Analysis: 12/19/06 05:04 PM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1,2-Trichloroethane	0,50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected
Dibromochloromethane	0.50	Not Detected	42	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	050	Not Detected	22	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	050	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2 4	Not Detected
1,3-Dichlorobenzene	0 50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	050	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1.2.4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
Naphthalene	2.0	Not Detected	10	Not Detected
1,1,1,2-Tetrachloroethane	2.0	Not Detected	14	Not Detected
1,2,3-Trichloropropane	2.0	Not Detected	12	Not Detected
Acetonitrile	5.0	Not Detected	. 8.4	Not Detected
Butylbenzene	2.0	Not Detected	11	Not Detected
Dibromomethane	2.0	Not Detected	14	Not Detected
Ethyl Acetate	2.0	Not Detected	7.2	Not Detected
sec-Butylbenzene	2.0	Not Detected	11	Not Detected
Vinyl Acetate	2.0	Not Detected	7.0	Not Detected
Container Type: NA - Not Applica	able			Method
Surrogates		%Recovery		Limits

94

89

96

70-130

70-130

70-130



#### Client Sample ID: Lab Blank Lab ID#: 0612090-02A

		: [18] [18] [18] [18] [18] [18] [18] [18]
File Name:	8121910a	Date of Collection: NA
I IIO IVAIIIGE		
Dil. Factor:	1.00	Date of Analysis: 12/19/06 05:04 PM
DII. Factor.	Be 전 등이 하는 경기가 하는 [12] 하고 한 다른 등이 되면 <b>서서</b> 한 경기를 받는 것이다. 그 하는 이라면 하는 것은 모든 다른 수	Date Of Amary 515, 12/10/00 00/04 1 in



#### Client Sample ID: CCV Lab ID#: 0612090-03A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

## File Name: 8121905 Date of Collection: NA Dil. Factor: 1.00 Date of Analysis: 12/19/06 02:11 PM

Compound	%Recovery
Freon 12	90
Freon 114	104
Chloromethane	113
Vinyl Chloride	104
1,3-Butadiene	104
Bromomethane	95
Chloroethane	102
Freon 11	92
Ethanol	109
Freon 113	100
1,1-Dichloroethene	95
Acetone	104
2-Propanol	103
Carbon Disulfide	95
3-Chloropropene	92
Methylene Chloride	100
Methyl tert-butyl ether	77
rans-1,2-Dichloroethene	92
Hexane	101
1,1-Dichloroethane	94
2-Butanone (Methyl Ethyl Ketone)	82
cis-1,2-Dichloroethene	90
Tetrahydrofuran	91
Chloroform	90
1,1,1-Trichloroethane	87
Cyclohexane	88
Carbon Tetrachloride	90
2,2,4-Trimethylpentane	91
Benzene	82
1,2-Dichloroethane	92
	87
	90
1,2-Dichloropropane	86
1,4-Dioxane	84
Bromodichloromethane	88
cis-1,3-Dichloropropene	86
4-Methyl-2-pentanone	90
Γoluene	89
rans-1,3-Dichloropropene	101



#### Client Sample ID: CCV Lab ID#: 0612090-03A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: 8121905 Date of Collection	
Dil Factor: 1.00 Date of Analysis:	12/19/06 02:11 PM
Dil. Factor: 1.00 Date of Analysis.	

Compound	%Recovery
1,1,2-Trichloroethane	97
Tetrachloroethene	103
2-Hexanone	101
Dibromochloromethane	105
1,2-Dibromoethane (EDB)	104
Chlorobenzene	96
Ethyl Benzene	102
m,p-Xylene	98
p-Xylene	101
Styrene	102
Bromoform	108
Cumene	95
1,1,2,2-Tetrachloroethane	94
Propylbenzene	98
4-Ethyltoluene	102
1,3,5-Trimethylbenzene	110
1,3,3-11methylbenzene	98
1,3-Dichlorobenzene	111
1,3-Dichlorobenzene	86
alpha-Chlorotoluene	92
1,2-Dichlorobenzene	109
1,2,4-Trichlorobenzene	109
Hexachlorobutadiene	120
	94
Naphthalene 1,1,1,2-Tetrachloroethane	95
Andrew Market and Andrew Market and Andrew Market and Andrew Market and Andrew Market	91
1,2,3-Trichloropropane	81
Acetonitrile	93
Butylbenzene	89
Dibromomethane	88
Ethyl Acetate	96
sec-Butylbenzene	91
Vinyl Acetate	Ç,

#### Container Type: NA - Not Applicable

Surrogates	%Recovery	Limits
Toluene-d8	94	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	108	70-130

Method



#### Client Sample ID: CCV Lab ID#: 0612090-03A

	를 통하면 하는 사람들이 되는 다른 사람들이 하는 사람들이 되었다. 그는 사람들은 사람들은 사람들은 사람들은 사람들이 되었다. 그는 사람들이 되었다. 그는 사람들이 사람들이 다른 사람들이 되었다. 그는 사람들이 되었다.
	용한 보다면 하는 사람들은 마음이 있다면 전하다. 는 '이글이 모든 전하고 보고 있는 등을 취임하고 있다는 이렇게 되었다. 그 모든 사람들이 되었다는 것은 사람들이 모든 것이다. 그는 사람들이 모든 사람들이 모든 사람들이 되었다.
<ul> <li>It is the second of the second</li></ul>	그리면 하는 마음이 되는 것 같은 점점이 되는 사람이 되었다. 그는 사람들은 사람들은 사람들은 사람들은 사람들은 사람들이 되었다. 그는 사람이 사람들은 사람들이 사람들은 사람들은 사람들은 사람들은 사람들은 사람들은 사람들은 사람들은
<ul> <li>Resolution of the Principle of the Control of the Con</li></ul>	가 보통하다는 이번 사람들은 사람들이 많아 보고 있다. 현소에 가는 나는 하는 한 전쟁에 가지 않는 "아니라 생각이 하나 아래를 하는데 나는 사람들이 되는데 가지를 하는데 그는 이 사람들이 그는 사람들이 되는데 하는데 그렇게 되었다. 그는 아니라 없는데 그는데 하는데 그렇게 되었다.
	till til til og av av av en til
File Moreon	8121905 Date of Collection: NA
File Name:	
<ul> <li>INVESTMENT TO THE REPORT OF THE PARTY OF THE</li></ul>	이 그는 일을 보고 있는데 그는 그는 그는 바람들은 사용하다 한 경우 하나가 얼마를 받는데 살아들었다면 그는 사람들이 하는데 그는데 그는데 그는데 그는데 그는데 그는데 그는데 그는데 그는데 그
	3、15、15、15、15、15、15、15、15、15、15、15、15、15、
그는 나는 그들을 하는 어느 그들은 것이 없는 것이 없는 것이 없는 것이 없는 것이 없는 것이다.	2 AA
Dil. Factor:	1.00 Date of Analysis: 12/19/06 02:11 PM
Dii.   actor.	이 문문 이 생활하다. 사람들은 다리 보면 보면 보다는 이 경기를 하면 하면 하면 하면 하면 하는데 보고 하는데 보고 ###################################
<ul> <li>Introduction is the accompanies of the control of the</li></ul>	2、 中国大学的是一个工作,只是我们的主义是一个工作的是一个工作,一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个



#### Client Sample ID: LCS Lab ID#: 0612090-04A

File Name: 8121903 Date of Collection	
	: 12/19/06 12:09 PM
Dil. Factor: 1.00 Date of Analysis	

Compound	%Recovery
Freon 12	84
Freon 114	98
Chloromethane	108
Vinyl Chloride	97
1,3-Butadiene	100
Bromomethane	92
Chloroethane	97
Freon 11	89
Ethanol	105
Freon 113	97
1,1-Dichloroethene	92
Acetone	93
2-Propanol	97
Carbon Disulfide	92
3-Chloropropene	95
Methylene Chloride	96
Methyl tert-butyl ether	67
trans-1,2-Dichloroethene	90
Hexane	96
1,1-Dichloroethane	92
2-Butanone (Methyl Ethyl Ketone)	81
cis-1,2-Dichloroethene	91
Tetrahydrofuran	85
Chloroform	88
1,1,1-Trichloroethane	87
Cyclohexane	84
Carbon Tetrachloride	89
2,2,4-Trimethylpentane	88
Benzene	87
1,2-Dichloroethane	96
Heptane	83
Trichloroethene	98
1,2-Dichloropropane	88
1,4-Dioxane	85
Bromodichloromethane	87
cis-1,3-Dichloropropene	58 Q
4-Methyl-2-pentanone	88
Toluene	92
trans-1,3-Dichloropropene	94



#### Client Sample ID: LCS Lab ID#: 0612090-04A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	8121903 Date of Collection: NA
	1.00 Date of Analysis: 12/19/06 12:09 PM
Dil. Factor:	1.00 Date of Analysis: 12/19/06 12:09 PM

Compound	%Recovery
1,1,2-Trichloroethane	90
Tetrachloroethene	97
2-Hexanone	83
Dibromochloromethane	92
1,2-Dibromoethane (EDB)	95
Chlorobenzene	90
Ethyl Benzene	100
m,p-Xylene	86
p-Xylene	83
Styrene	85
Bromoform	78
Cumene	84
1,1,2,2-Tetrachloroethane	90
Propylbenzene	90
-Ethyltoluene	96
I,3,5-Trimethylbenzene	86
,2,4-Trimethylbenzene	61 Q
,3-Dichlorobenzene	108
,4-Dichlorobenzene	104
alpha-Chlorotoluene	93
,2-Dichlorobenzene	102
,2,4-Trichlorobenzene	104
Hexachlorobutadiene	104
Naphthalene	88
,1,1,2-Tetrachloroethane	Not Spiked
,2,3-Trichloropropane	Not Spiked
cetonitrile	Not Spiked
Butylbenzene	Not Spiked
Dibromomethane	Not Spiked
Ethyl Acetate	Not Spiked
ec-Butylbenzene	Not Spiked
/inyl Acetate	84

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

		Wethod
Surrogates	%Recovery	Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	93	70-130



#### Client Sample ID: LCS Lab ID#: 0612090-04A

File Name: 81 Dil. Factor:		ollection: NA .nalysis: 12/19/06 12:09 PM
		Method
Surrogates	%Recovery	Limits
4-Bromofluorobenzene	101	70-130

Company Name: Golder Associates  Project Name: Solution Soil Vapor Sampling E  Reviewer: T. White  Laboratory: Air Toxics  Analytical Method (type and no.): TO -15 SIN  Matrix: X Air Soil/Sed Water Waste  Sample Names SN-4, Equipment Bla			Projec Valida SDG #	et Number:_ ation Date: _ #:06\a	
NOTE:	Please provide calculation in Comment areas or	on the b	ack (if o	n the back p	please indicate in comment areas).
Field In	formation	YES	NO	NA	COMMENTS
a)	Sampling dates noted?				4
b)	Sampling team indicated?				
c)	Sample location noted?				
d)	Sample depth indicated (Soils)?	V			
e)	Sample type indicated (grab/composite)?				
f)	Field QC noted?				× 4
g)	Field parameters collected (note types)?				the same land
h)	Field Calibration within control limits?				
i)	Notations of unacceptable field conditions/performa	nces fror	n field log	gs or field no	tes?
j)	Does the laboratory narrative indicate deficiencies?  Note Deficiencies:		<u> </u>		
Chain-c	of-Custody (COC)	YES	NO	NA	COMMENTS
,	W 1 000 L	- September 1	l)	[ <del></del> ]	
a)	Was the COC properly completed?		Ц	Ц	
b)	Was the COC signed by both field and laboratory personnel?				
c)	Were samples received in good condition?	- Commence			
Genera	l (reference QAPP or Method)	YES	NO	NA	COMMENTS
a)	Were hold times met for sample pretreatment?				HT=140
b)	Were hold times met for sample analysis?	War and the same of the same o			HT=10D
c)	Were the correct preservatives used?			W Comment	
d)	Was the correct method used?	Carlotte Market Market			
e)	Were appropriate reporting limits achieved?	W Karana			
f)	Were any sample dilutions noted?				
g)	Were any matrix problems noted?				

Blanks		YES	NO	NA		COMMENTS
a)	Were analytes detected in the method blank(s)?		V			
b)	Were analytes detected in the field blank(s)?			v	- L. A. A. A.	
c)	Were analytes detected in the equipment blank(s)?					
d)	Were analytes detected in the trip blank(s)?					
Labora	tory Control Sample (LCS)	YES	NO	NA		COMMENTS
a)	Was a LCS analyzed once per SDG?	V				
b)	Were the proper compounds included in the LCS?					
c)	Was the LCS accuracy criteria met?	The second second				
Duplica	ates	YES	NO	NA		COMMENTS
a)	Were field duplicates collected (note original and du	uplicate s	ample na	ımes)?		
٠.,	C C C C C C C C C C C C C C C C C C C	·	V			
b)	Were field dup. precision criteria met (note RPD)?					
c)	Were lab duplicates analyzed (note original and dup	plicate sa	mples)?			
-,	, , ,		De la companya della companya della companya de la companya della			
d)	Were lab dup precision criteria met (note RPD)?			Warner of the same		
m: .c	v. d. de	YES	NO	NA		COMMENTS
	tandards		<i>Γ</i> 7	NA D		COMMENTO
a)	Was a blind standard used (indicate name,		LJ	L36		The state of the s
	compounds included and concentrations)?			Shake and a		
b)	Was the %D within control limits?		ليا	LZ		
Matrix	Spike/Matrix Spike Duplicate (MS/MSD)	YES	NO	NA	COMMENTS	
a)	Was MS accuracy criteria met?					
	Recovery could not be calculated since sample contained high concentration of analyte?			No. of the last of		
b)	Was MSD accuracy criteria met?			in the second		
	Recovery could not be calculated since sample contained high concentration of analyte?			W Comment		
c)	Were MS/MSD precision criteria met?			The second		
Surroa	ate Spikes	YES	NO	NA		COMMENTS
a)	Were surrogate recoveries within control limits?	<b>V</b>				
b)	Were surrogate recoveries not calculated due to					
,	dilutions?				***************************************	
Comm	ents/Notes:					

#### Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
No Qual	TELES			

Signature: What was a signature of the s

Date: 1/11/05



#### **WORK ORDER #:** 0612240

Work Order Summary

Mr. Mark Haddock CLIENT:

Golder Associates, Inc.

820 South Main Street

Suite 100

12/12/2006

St. Charles, MO 63301

PHONE: (636)-724-9191

FAX: (636-724-9323

DATE RECEIVED:

DATE COMPLETED: 12/29/2006 BILL TO: Mr. Mark Haddock

Golder Associates, Inc. 820 South Main Street

Suite 100

St. Charles, MO 63301

043-9670 P.O. #

043-9670 Solutia Soil Vapor Sampling PROJECT#

DECEIDT

Event Brandon Dunmore CONTACT:

			RECEIPT
FRACTION#	NAME	TEST	VAC./PRES.
01A	SV-4 cerro	Modified TO-15 SIM	3.0 "Hg
02A	Equipment Blank	Modified TO-15 SIM	3.5 "Hg
03A	Lab Blank	Modified TO-15 SIM	NA
04A	CCV	Modified TO-15 SIM	NA
05A	LCS	Modified TO-15 SIM	NA

CERTIFIED BY:

Lorda O. Fruman

12/29/06 DATE:

Laboratory Director

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004 NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act, Accreditation number: E87680, Effective date: 07/01/06, Expiration date: 06/30/07

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020



#### LABORATORY NARRATIVE Modified TO-15 SIM Golder Associates, Inc. Workorder# 0612240

Two 6 Liter Summa Special (100% Certified) samples were received on December 12, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition mode. The method involves concentrating up to 0.5 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

Requirement	TO-15	ATL Modifications
ICAL %RSD acceptance criteria	=30% RSD with 2<br compounds allowed out to < 40% RSD	Project specific; default criteria is =30% RSD with 10% of compounds allowed out to < 40% RSD</td
Daily Calibration	+- 30% Difference	Project specific; default criteria is = 30% Difference with 10% of compounds allowed out up to </=40%; flag and narrate outliers</td
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

#### **Receiving Notes**

The Chain of Custody (COC) information for sample Equipment Blank did not match the entry on the sample tag with regard to sample identification. The discrepancy was noted in the Sample Receipt Confirmation email/fax and the information on the COC was used to process and report the sample.

#### **Analytical Notes**

There were no analytical discrepancies.

#### **Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

- B Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
  - J Estimated value.
  - E Exceeds instrument calibration range.
  - S Saturated peak.
  - Q Exceeds quality control limits.
  - U Compound analyzed for but not detected above the reporting limit.



- UJ- Non-detected compound associated with low bias in the CCV
- N The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



## **Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS SIM**

Client Sample ID: SV-4 cerro

Lab ID#: 0612240-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)	
Trichloroethene	0.030	0.54	0 16	2.9	

Client Sample ID: Equipment Blank

Lab ID#: 0612240-02A

No Detections Were Found



# Client Sample ID: SV-4 cerro

#### Lab ID#: 0612240-01A

#### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name: Dil. Factor:	6122016 1.49		Date of Collection: 12/11/06 Date of Analysis: 12/20/06 06:59 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)	
Trichloroethene	0.030	0.54	0.16	2.9	
1,2-Dichloroethane	0.030	Not Detected	0.12	Not Detected	
1.2-Dibromoethane (EDB)	0 030	Not Detected	0 23	Not Detected	
1,1,2,2-Tetrachloroethane	0.030	Not Detected	0.20	Not Detected	
Container Type: 6 Liter Summa	Special (100% Certified)			Method	
Surrogates		%Recovery		Limits	
1,2-Dichloroethane-d4		101		70-130	
Toluene-d8		101		70-130	
4-Bromofluorobenzene		103		70-130	



#### Client Sample ID: Equipment Blank

# Lab ID#: 0612240-02A

#### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name: Dil. Factor:	6122017 1.52		Date of Collection: 12/11/06 Date of Analysis: 12/20/06 07:53 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)	
Trichloroethene	0 030	Not Detected	0.16	Not Detected	
1,2-Dichloroethane	0.030	Not Detected	0.12	Not Detected	
1.2-Dibromoethane (EDB)	0.030	Not Detected	0.23	Not Detected	
1,1,2,2-Tetrachloroethane	0.030	Not Detected	0.21	Not Detected	
Container Type: 6 Liter Summa	Special (100% Certified)	%Recovery		Method Limits	
1.2-Dichloroethane-d4		101		70-130	
Toluene-d8		101		70-130	
4-Bromofluorobenzene		105		70-130	



# Client Sample ID: Lab Blank Lab ID#: 0612240-03A

# MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name: Dil. Factor:	6122006 1.00		Date of Collection: NA Date of Analysis: 12/20/06 10:50 AM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)	
Trichloroethene	0.020	Not Detected	0 11	Not Detected	
1,2-Dichloroethane	0.020	Not Detected	0.081	Not Detected	
1,2-Dibromoethane (EDB)	0.020	Not Detected	0 15	Not Detected	
1,1,2,2-Tetrachloroethane	0.020	Not Detected	0.14	Not Detected	
Container Type: NA - Not Applica	able				
Surrogates		%Recovery		Method Limits	
1,2-Dichloroethane-d4		100		70-130	
Toluene-d8		100		70-130	
4-Bromofluorobenzene		112		70-130	



4-Bromofluorobenzene

AN ENVIRONMENTAL ANALYTICAL LABORATORY

# Client Sample ID: CCV Lab ID#: 0612240-04A

# MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name: 6122003 Date of Collection: NA Dil. Factor: 1.00 Date of Analysis: 12/20/06 08:43 AM		
		C422002 Pate of Callection MA
Dil. Factor: 1.00   Date of Analysis: 12/20/06 08:43 AM	File Name:	아마트 아무리를 들어가는 하는 것이 되었다. 이 사람들은 사람들은 사람들은 사람들은 사람들은 사람들은 사람들은 사람들은
	Dil. Factor:	1.00 Date of Analysis: 12/20/06 08:43 AM

Compound		%Recovery
Trichloroethene		86
1,2-Dichloroethane		84
1,2-Dibromoethane (EDB)		90
1,1,2,2-Tetrachloroethane		74
Container Type: NA - Not Applicable		
_	9/ 🗖	Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	97	70-130

96

70-130



# Client Sample ID: LCS Lab ID#: 0612240-05A

#### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name: Dil. Factor:	6122004 Date of Collection 1.00 Date of Analysis:	: NA 12/20/06 09:26 AM
		0/5

Compound	%Recovery
Trichloroethene	90
1,2-Dichloroethane	93
1,2-Dibromoethane (EDB)	100
1,1,2,2-Tetrachloroethane	98

#### Container Type: NA - Not Applicable

Container Type: (1) Container		Method		
Surrogates	%Recovery	Limits		
1,2-Dichloroethane-d4	94	70-130		
Toluene-d8	98	70-130		
4-Bromofluorobenzene	103	70-130		

Project Review Laboral Analytic Matrix:	ny Name: Golder Associates  Name: Solytia Soil Vapor Sampling er: J. White  ory: Air Toxies LTD.  cal Method (type and no): TO-15 (modified)  [X Air Soil/Sed Water Waste  Names SV-1 Equipment 8	Fied)	Project Validation SDG	ct Number:_ ation Date: _ #:6	M. Haddock 043-9670 1/11/07 122408
	Please provide calculation in Comment areas or			•	
	offormation	YES	NO	<i>NA</i>	COMMENTS
a)	Sampling dates noted?				
b)	Sample legation neted?				
c)	Sample location noted?				
d)	Sample depth indicated (Soils)? A is Sample type indicated (grab/composite)?				
e) f)	Field QC noted?				
g)	Field parameters collected (note types)?				PID
9 <i>)</i> h)	Field Calibration within control limits?				
i)	Notations of unacceptable field conditions/performa	inces fror	ு n field loo	್ಲ as or field not	tes?
',			The state of the s	J. 3	
j)	Does the laboratory narrative indicate deficiencies?				
-	Note Deficiencies:				
Chain-c	of-Custody (COC)	YES	NO	NA	COMMENTS
a)	Was the COC properly completed?	War.			
b)	Was the COC signed by both field	Mire			
	and laboratory personnel?				
c)	Were samples received in good condition?				
Genera	I (reference QAPP or Method)	YES	NO	NA	COMMENTS
a)	Were hold times met for sample pretreatment?				HT=140
b)	Were hold times met for sample analysis?	0			HT=16D
c)	Were the correct preservatives used?				
d)	Was the correct method used?				
e)	Were appropriate reporting limits achieved?				
f)	Were any sample dilutions noted?				
a)	Were any matrix problems noted?	П		П	

Revised May 2004

Blanks	•	YES	NO	NA	COMMENTS
a)	Were analytes detected in the method blank(s)?		V		
b)	Were analytes detected in the field blank(s)?				
c)	Were analytes detected in the equipment blank(s)?				
d)	Were analytes detected in the trip blank(s)?				
Labora	ntory Control Sample (LCS)	YES	NO	NA	COMMENTS
a)	Was a LCS analyzed once per SDG?				
b)	Were the proper compounds included in the LCS?	D.			M =
c)	Was the LCS accuracy criteria met?				Chloroethane
					Naphthalene outside Control limits
Duplic	ates	YES	NO	NA	COMMENTS
a)	Were field duplicates collected (note original and du	uplicate s	ample n	ames)?	
b)	Were field dup. precision criteria met (note RPD)?			回	
c)	Were lab duplicates analyzed (note original and du	olicate sa	amples)?		
			Ø		
d)	Were lab dup. precision criteria met (note RPD)?			Ø	
Blind S	Standards	YES	NO	NA	COMMENTS
a)	Was a blind standard used (indicate name,			Ø	
	compounds included and concentrations)?				
b)	Was the %D within control limits?				
Matrix	Spike/Matrix Spike Duplicate (MS/MSD)	YES	NO	NA	COMMENTS
a)	Was MS accuracy criteria met?				
	Recovery could not be calculated since sample contained high concentration of analyte?				
b)	Was MSD accuracy criteria met?				
	Recovery could not be calculated since sample			,	
	contained high concentration of analyte?				
c)	Were MS/MSD precision criteria met?			Ø	
Surrog	ate Spikes	YES	NO	NA	COMMENTS
a)	Were surrogate recoveries within control limits?				
b)	Were surrogate recoveries not calculated due to dilutions?				
Comm	ents/Notes: See qualifiers on n	An 1/2 afron	1-3	Beauti	

Data Qualification:

ata Qualification:		(vd99)		
Sample Name	Constituent(s)	Result	Qualifier	Reason
51-4	Freon 11	0.28	2	Detection in Equip, Blank
1	Acetone	15		
	2-Butanove	2.8		
	4-Methyl-2-Pentano	0.61		
	m,p-xylene	2.0		
	0-Xylene	58.0		
	4-Ethyltoluena	0,49		
	1/2,4-Trimethylbenzane	0.85		<u> </u>
	Choroethane	0,28		LCS outside control limit
<u> </u>	Naphthalene	21	V	
,				

Signature: wtt utt	Date:	1/11/07	
	_		



#### **WORK ORDER #: 0612240B**

Work Order Summary

CLIENT: Mr. Mark Haddock

Golder Associates, Inc. 820 South Main Street

Suite 100

St. Charles, MO 63301

**PHONE:** (636)-724-9191

FAX: (636-724-9323 **DATE RECEIVED:** 12/12/2006

**DATE COMPLETED:** 12/29/2006

BILL TO: Mr. Mark Haddock

Golder Associates, Inc. 820 South Main Street

Suite 100

St. Charles, MO 63301

**P.O.** # 043-9670

PROJECT# 043-9670 Solutia Soil Vapor Sampling

**CONTACT:** Event Brandon Dunmore

			RECEIPT
FRACTION #	<u>NAME</u>	$\underline{\mathbf{\Gamma}\mathbf{E}\mathbf{S}\mathbf{T}}$	VAC./PRES.
01A	SV-4 cerro	Modified TO-15	3.0 "Hg
02A	Equipment Blank	Modified TO-15	3.5 "Hg
03A	Lab Blank	Modified TO-15	NA
04A	CCV	Modified TO-15	NA
05A	LCS	Modified TO-15	NA

CERTIFIED BY:

Senda & Fruman

DATE: 12/29/06

Laboratory Director

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004 NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,

Accreditation number: E87680, Effective date: 07/01/06, Expiration date: 06/30/07

Air Toxics Ltd certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630 (916) 985-1000 (800) 985-5955 FAX (916) 985-1020



# LABORATORY NARRATIVE Modified TO-15 Golder Associates, Inc. Workorder# 0612240B

Two 6 Liter Summa Special (100% Certified) samples were received on December 12, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 1.0 liter of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

Requirement	TO-15	ATL Modifications
ICAL %RSD acceptance criteria	+- 30% RSD with 2 compounds allowed out to < 40% RSD	30% RSD with 4 compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	=30%</math Difference with four allowed out up to $; flag and narrate outliers$
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request

#### **Receiving Notes**

The Chain of Custody (COC) information for sample Equipment Blank did not match the entry on the sample tag with regard to sample identification. The discrepancy was noted in the Sample Receipt Confirmation email/fax and the information on the COC was used to process and report the sample.

#### **Analytical Notes**

The reported CCV for each daily batch may be derived from more than one analytical file due to the client's request for non-standard compounds.

Non-standard compounds may have different acceptance criteria than the standard TO-14A/TO-15 compound list as per contract or verbal agreement.

The reported LCS for each daily batch has been derived from more than one analytical file.

All Quality Control Limit failures and affected sample results are noted by flags. Each flag is defined at the



bottom of this Case Narrative and on each Sample Result Summary page. Target compound non-detects in the samples that are associated with high bias in QC analyses have not been flagged.

#### **Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

- B Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
  - J Estimated value.
  - E Exceeds instrument calibration range.
  - S Saturated peak.
  - Q Exceeds quality control limits.
  - U Compound analyzed for but not detected above the reporting limit.
  - UJ- Non-detected compound associated with low bias in the CCV
  - N The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



# Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SV-4 cerro

Lab ID#: 0612240B-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.15	0.49	0.74	2.4
Chloromethane	0 15	0.20	0.31	0.42
1,3-Butadiene	0.15	2.5	0.33	5.6
- Chloroethane	0.15	0 28 🗓	0.39	0.73
Freon 11	0.15	0.28 丁	0.84	1.6
Freon 113	0.15	0.20	1.1	1.5
Acetone	0.74	15 <b>万</b>	1.8	36
Carbon Disulfide	0.74	35	2.3	110
Hexane	015	25	0 52	87
1,1-Dichloroethane	0.15	1.7	0.60	7.0
2-Butanone (Methyl Ethyl Ketone)	0.15	28 J	0 44	8.3
1,1,1-Trichloroethane	0.15	3.6	0.81	20
Cyclohexane	0.15	16	0 51	56
Benzene	0 15	8.2	0 48	26
Heptane	0.15	7.1	0.61	29
4-Methyl-2-pentanone	0.15	0.61万	0 61	2.5
Toluene	0.15	8.7	0.56	33
Tetrachloroethene	0 15	028	10	1.9
Ethyl Benzene	0.15	1.3	0.65	5.7
m,p-Xylene	0.15	2.0 🛨	0.65	8.8
o-Xylene	0 15	0.837	0.65	3.6
Styrene	0.15	0.22	0.63	0.92
Propylbenzene	0.15	0.14 J	0 73	0.72 J
4-Ethyltoluene	0.15	0.497	0 73	2.4
1,3,5-Trimethylbenzene	0.15	0.45	0.73	2.2
1,2,4-Trimethylbenzene	0.15	0.85ブ	0.73	4.2
Naphthalene	0 74	21 ブ	3.9	110

Client Sample ID: Equipment Blank

Lab ID#: 0612240B-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 11	0.15	0.17	0.85	0.95
Ethanol	0.76	5 4	1.4	10
Acetone	0.76	16	1.8	37
2-Propanol	0 76	7.5	1.9	18
Carbon Disulfide	0.76	2.1	2.4	6.4



# Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

# Client Sample ID: Equipment Blank

Lab ID#: 0612240B-02A				
2-Butanone (Methyl Ethyl Ketone)	0.15	22	0.45	6.5
Benzene	0 15	0.43	0.48	1.4
4-Methyl-2-pentanone	0.15	0.16	0.62	0.68
Toluene	0.15	0.33	0.57	13
Ethyl Benzene	0.15	0.14 J	0.66	0.63 J
m,p-Xylene	0.15	0.48	0 66	2.1
o-Xylene	0.15	0.17	0 66	0.76
4-Ethyltoluene	0.15	0.17	0.75	0 85
1,2,4-Trimethylbenzene	0.15	0.26	0.75	1.3



# Client Sample ID: SV-4 cerro Lab ID#: 0612240B-01A

File Name: Dil. Factor:	7122115 1.49		Date of Collection Date of Analysis:	: 12/11/06 12/22/06 12:29 AM
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.15	0,49	0.74	2.4
Freon 114	0.15	Not Detected	10	Not Detected
Chloromethane	015	0.20	0.31	0.42
Vinyl Chloride	0.15	Not Detected	0.38	Not Detected
1,3-Butadiene	0.15	2.5	0.33	5.6
Bromomethane	0.15	Not Detected	0 58	Not Detected
Chloroethane	0.15	0.28	0.39	0 73
Freon 11	0 15	0.28	0.84	1.6
Ethanol	0.74	Not Detected	1.4	Not Detected
Freon 113	0.15	0.20	1.1	1.5
1,1-Dichloroethene	0 15	Not Detected	0.59	Not Detected
Acetone	0.74	15	1.8	36
2-Propanol	0.74	Not Detected	1.8	Not Detected
Carbon Disulfide	0.74	35	2.3	110
Methylene Chloride	0.30	Not Detected	1.0	Not Detected
Methyl tert-butyl ether	0.15	Not Detected U J	0.54	Not Detected U
trans-1,2-Dichloroethene	0.15	Not Detected	0 59	Not Detected
Hexane	0 15	25	0.52	87
1,1-Dichloroethane	0.15	17	0.60	7.0
2-Butanone (Methyl Ethyl Ketone)	0.15	2.8	0.44	8.3
cis-1,2-Dichloroethene	0 15	Not Detected	0.59	Not Detected
Tetrahydrofuran	0 74	Not Detected	2.2	Not Detected
Chloroform	0 15	Not Detected	0.73	Not Detected
1,1,1-Trichloroethane	0.15	3.6	0.81	20
Cyclohexane	0.15	16	0.51	56
Carbon Tetrachloride	0 15	Not Detected	0.94	Not Detected
Benzene	0.15	8.2	0.48	26
Heptane	0 15	7.1	0.61	29
1,2-Dichloropropane	0.15	Not Detected	0.69	Not Detected
1.4-Dioxane	0.15	Not Detected	0.54	Not Detected
3romodichloromethane	0 15	Not Detected	1.0	Not Detected
cis-1,3-Dichloropropene	0 15	Not Detected	0.68	Not Detected
4-Methyl-2-pentanone	0.15	0.61	0.61	25
Foluene	0 15	87	0.56	33
rans-1,3-Dichloropropene	0.15	Not Detected	0.68	Not Detected
I,1,2-Trichloroethane	0.15	Not Detected	0.81	Not Detected
Fetrachloroethene	0.15	0.28	1.0	1.9
2-Hexanone	0.74	Not Detected	3.0	Not Detected
Dibromochloromethane	0.15	Not Detected	1.3	Not Detected



# Client Sample ID: SV-4 cerro Lab ID#: 0612240B-01A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	7122115 1.49		Date of Collection: 12/11/06 Date of Analysis: 12/22/06 12:29 AM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)	
Chlorobenzene	0 15	Not Detected	0.68	Not Detected	
Ethyl Benzene	0.15	1.3	0.65	5.7	
m,p-Xylene	0.15	2.0	065	8.8	
o-Xylene	0 15	0.83	0.65	36	
Styrene	0.15	0.22	0.63	0.92	
Bromoform	0.15	Not Detected	1.5	Not Detected	
Cumene	0 15	Not Detected	0.73	Not Detected	
Propylbenzene	0.15	0.14 J	0.73	0.72 J	
4-Ethyltoluene	0.15	0.49	0.73	2.4	
1,3,5-Trimethylbenzene	0.15	0.45	0.73	2.2	
1,2,4-Trimethylbenzene	0.15	0.85	0.73	4.2	
1,3-Dichlorobenzene	0.15	Not Detected	0.90	Not Detected	
1,4-Dichlorobenzene	0.15	Not Detected	090	Not Detected	
alpha-Chlorotoluene	0.15	Not Detected	0 77	Not Detected	
1,2-Dichlorobenzene	0.15	Not Detected	0.90	Not Detected	
1,2,4-Trichlorobenzene	0 74	Not Detected	5 5	Not Detected	
Hexachlorobutadiene	0.74	Not Detected	7.9	Not Detected	
Naphthalene	0.74	21	3.9	110	
1,1,2-Tetrachloroethane	0.74	Not Detected	5.1	Not Detected	
1,2,3-Trichloropropane	0.74	Not Detected	4.5	Not Detected	
Acetonitrile	0.74	Not Detected	1.2	Not Detected	
Butylbenzene	0.74	Not Detected	4.1	Not Detected	
Dibromomethane	0.74	Not Detected	5.3	Not Detected	
Ethyl Acetate	0.74	Not Detected	27	Not Detected	
sec-Butylbenzene	0.74	Not Detected	4.1	Not Detected	
Vinyl Acetate	3.0	Not Detected	10	Not Detected	
<del>.</del>					

UJ = Non-detected compound associated with low bias in the CCV

#### J = Estimated value

Container Type: 6 Liter Summa Special (100% Certified)

	, , , , , , , , , , , , , , , , , , , ,	Method Limits	
Surrogates	%Recovery		
1,2-Dichloroethane-d4	116	70-130	
Toluene-d8	99	70-130	
4-Bromofluorobenzene	103	70-130	



# Client Sample ID: Equipment Blank

#### Lab ID#: 0612240B-02A

File Name: Dil. Factor:	7122116 1.52		Date of Collection: 12/11/06 Date of Analysis: 12/22/06 01:55	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0 15	Not Detected	0 75	Not Detected
Freon 114	0.15	Not Detected	1.1	Not Detected
Chloromethane	0.15	Not Detected	0.31	Not Detected
Vinyl Chloride	0 15	Not Detected	0.39	Not Detected
1.3-Butadiene	0.15	Not Detected	0.34	Not Detected
Bromomethane	0.15	Not Detected	0.59	Not Detected
Chloroethane	0.15	Not Detected	0.40	Not Detected
Freon 11	0.15	0.17	0.85	0 95
Ethanol	0.76	5.4	1.4	10
Freon 113	0.15	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.15	Not Detected	0.60	Not Detected
Acetone	0.76	16	1.8	37
2-Propanol	0.76	7.5	1.9	18
Carbon Disulfide	0.76	2.1	2.4	6.4
Methylene Chloride	0.30	Not Detected	1.0	Not Detected
Methyl tert-butyl ether	0.15	Not Detected U J	0.55	Not Detected U
trans-1,2-Dichloroethene	0.15	Not Detected	0.60	Not Detected
Hexane	0.15	Not Detected	0.54	Not Detected
1,1-Dichloroethane	0.15	Not Detected	0.62	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.15	2.2	0.45	6.5
cis-1,2-Dichloroethene	0 15	Not Detected	0.60	Not Detected
Tetrahydrofuran	0.76	Not Detected	2.2	Not Detected
Chloroform	0.15	Not Detected	0.74	Not Detected
1,1,1-Trichloroethane	0.15	Not Detected	0.83	Not Detected
Cyclohexane	0.15	Not Detected	0.52	Not Detected
Carbon Tetrachloride	0.15	Not Detected	0.96	Not Detected
Benzene	0.15	0.43	0.48	1.4
Heptane	0.15	Not Detected	0 62	Not Detected
1,2-Dichloropropane	015	Not Detected	0 70	Not Detected
1,4-Dioxane	0.15	Not Detected	0.55	Not Detected
Bromodichloromethane	0.15	Not Detected	1.0	Not Detected
cis-1,3-Dichloropropene	0.15	Not Detected	0.69	Not Detected
4-Methyl-2-pentanone	0.15	0.16	0.62	0.68
Toluene	0.15	0.33	0 57	1.3
trans-1,3-Dichloropropene	0.15	Not Detected	0.69	Not Detected
1,1,2-Trichloroethane	0.15	Not Detected	0.83	Not Detected
Tetrachloroethene	0.15	Not Detected	1.0	Not Detected
2-Hexanone	0.76	Not Detected	3.1	Not Detected
Dibromochloromethane	0.15	Not Detected	13	Not Detected



#### Client Sample ID: Equipment Blank

#### Lab ID#: 0612240B-02A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	7122116 1.52		Date of Collection: 12/11/06 Date of Analysis: 12/22/06 01:55 AN		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)	
Chlorobenzene	0.15	Not Detected	0.70	Not Detected	
Ethyl Benzene	0.15	0.14 J	0.66	0.63 J	
m,p-Xylene	0.15	0.48	0.66	2.1	
o-Xylene	0.15	0.17	066	0.76	
Styrene	0.15	Not Detected	0.65	Not Detected	
Bromoform	0.15	Not Detected	1.6	Not Detected	
Cumene	0.15	Not Detected	0.75	Not Detected	
Propylbenzene	0.15	Not Detected	0.75	Not Detected	
4-Ethyltoluene	0.15	0.17	0 75	0 85	
1,3,5-Trimethylbenzene	0.15	Not Detected	0.75	Not Detected	
1,2,4-Trimethylbenzene	0.15	0.26	0.75	1.3	
1,3-Dichlorobenzene	0.15	Not Detected	0.91	Not Detected	
1,4-Dichlorobenzene	0.15	Not Detected	0.91	Not Detected	
alpha-Chlorotoluene	0.15	Not Detected	0.79	Not Detected	
1,2-Dichlorobenzene	0.15	Not Detected	0.91	Not Detected	
1,2,4-Trichlorobenzene	0.76	Not Detected	5.6	Not Detected	
Hexachlorobutadiene	0.76	Not Detected	8.1	Not Detected	
Naphthalene	0.76	Not Detected	4 0	Not Detected	
1,1,1,2-Tetrachloroethane	0.76	Not Detected	5.2	Not Detected	
1,2,3-Trichloropropane	0.76	Not Detected	4.6	Not Detected	
Acetonitrile	0.76	Not Detected	1.3	Not Detected	
Butylbenzene	0.76	Not Detected	4.2	Not Detected	
Dibromomethane	0.76	Not Detected	5.4	Not Detected	
Ethyl Acetate	0.76	Not Detected	2.7	Not Detected	
sec-Butylbenzene	0.76	Not Detected	4.2	Not Detected	
Vinyl Acetate	3.0	Not Detected	11	Not Detected	

UJ = Non-detected compound associated with low bias in the CCV

#### J = Estimated value

Container Type: 6 Liter Summa Special (100% Certified)

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130



# Client Sample ID: Lab Blank

#### Lab ID#: 0612240B-03A

File Name: Dil. Factor:	7122113 1.00		Date of Collection: NA Date of Analysis: 12/21/06 09:3	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.10	Not Detected	0.49	Not Detected
Freon 114	0.10	Not Detected	0.70	Not Detected
Chloromethane	0.10	Not Detected	0.21	Not Detected
Vinyl Chloride	0 10	Not Detected	0 26	Not Detected
1,3-Butadiene	0.10	Not Detected	0.22	Not Detected
Bromomethane	0.10	Not Detected	0 39	Not Detected
Chloroethane	0.10	Not Detected	0.26	Not Detected
Freon 11	0.10	Not Detected	056	Not Detected
Ethanol	0.50	Not Detected	0.94	Not Detected
Freon 113	0.10	Not Detected	0.77	Not Detected
1,1-Dichloroethene	0.10	Not Detected	0 40	Not Detected
Acetone	0.50	Not Detected	1.2	Not Detected
2-Propanol	0.50	Not Detected	1.2	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
Methylene Chloride	0.20	Not Detected	0.69	Not Detected
Methyl tert-butyl ether	0.10	Not Detected	0.36	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Hexane	010	Not Detected	0.35	Not Detected
1,1-Dichloroethane	010	Not Detected	0.40	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.10	Not Detected	0.29	Not Detected
cis-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	010	Not Detected	0.49	Not Detected
1,1,1-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Cyclohexane	0.10	Not Detected	0.34	Not Detected
Carbon Tetrachloride	0.10	Not Detected	0.63	Not Detected
Benzene	0.10	Not Detected	0.32	Not Detected
Heptane	010	Not Detected	0.41	Not Detected
1,2-Dichloropropane	0.10	Not Detected	0 46	Not Detected
1,4-Dioxane	0.10	Not Detected	0.36	Not Detected
	0.10	Not Detected	0.67	Not Detected
cis-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
1-Methyl-2-pentanone	0.10	Not Detected	0.41	Not Detected
Foluene	0.10	Not Detected	0.38	Not Detected
rans-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
I,1,2-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Tetrachloroethene	0.10	Not Detected	0.68	Not Detected
2-Hexanone	0.50	Not Detected	20	Not Detected
Dibromochloromethane	0.10	Not Detected	0.85	Not Detected



# Client Sample ID: Lab Blank Lab ID#: 0612240B-03A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	7122113 1.00	지어 바람이가 하는 말이 하는 물로 가장이 가셨다.	Date of Collection: NA Date of Analysis: 12/21/06 09:38 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)	
Chlorobenzene	0 10	Not Detected	0.46	Not Detected	
Ethyl Benzene	0 10	Not Detected	0 43	Not Detected	
m,p-Xylene	0.10	Not Detected	0.43	Not Detected	
o-Xylene	0.10	Not Detected	0.43	Not Detected	
Styrene	0.10	Not Detected	0.42	Not Detected	
Bromoform	0.10	Not Detected	1.0	Not Detected	
Cumene	0.10	Not Detected	0.49	Not Detected	
Propylbenzene	0.10	Not Detected	0.49	Not Detected	
4-Ethyltoluene	0.10	Not Detected	0.49	Not Detected	
1,3,5-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected	
1,2,4-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected	
1,3-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected	
1,4-Dichlorobenzene	0.10	Not Detected	0 60	Not Detected	
alpha-Chlorotoluene	0.10	Not Detected	0.52	Not Detected	
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected	
1,2,4-Trichlorobenzene	0.50	Not Detected	3.7	Not Detected	
Hexachlorobutadiene	0.50	Not Detected	5.3	Not Detected	
Naphthalene	0.50	Not Detected	2.6	Not Detected	
1,1,1,2-Tetrachloroethane	0 50	Not Detected	3.4	Not Detected	
1,2,3-Trichloropropane	0.50	Not Detected	3.0	Not Detected	
Acetonitrile	0 50	Not Detected	0.84	Not Detected	
Butylbenzene	0.50	Not Detected	2.7	Not Detected	
Dibromomethane	0.50	Not Detected	3.6	Not Detected	
Ethyl Acetate	0.50	Not Detected	1.8	Not Detected	
sec-Butylbenzene	0.50	Not Detected	2.7	Not Detected	
Vinyl Acetate	2.0	Not Detected	70	Not Detected	

#### Container Type: NA - Not Applicable

Container Type: 13. The Type Care		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	113	70-130	
Toluene-d8	99	70-130	
4-Bromofluorobenzene	99	70-130	



# Client Sample ID: CCV Lab ID#: 0612240B-04A

	7122102 Date of Collection: NA	
File Name:	7122102 Date of Collection: NA	
	1.00 Date of Analysis: 12/21/06 10:44 AM	
	1.00 Date of Analysis: 12/21/06 10:44 AM	
Dil. Factor:		

Compound	%Recovery
Freon 12	110
Freon 114	108
Chloromethane	101
Vinyl Chloride	113
1,3-Butadiene	104
Bromomethane	111
Chloroethane	114
Freon 11	108
Ethanol	103
Freon 113	111
1.1-Dichloroethene	114
Acetone	107
2-Propanol	103
Carbon Disulfide	110
Methylene Chloride	105
Methyl tert-butyl ether	65 Q
rans-1,2-Dichloroethene	107
Hexane	104
I,1-Dichloroethane	109
2-Butanone (Methyl Ethyl Ketone)	95
sis-1,2-Dichloroethene	107
Fetrahydrofuran	100
Chloroform	116
1,1,1-Trichloroethane	120
Cyclohexane	107
Carbon Tetrachloride	127
Benzene	106
Heptane	106
1,2-Dichloropropane	106
1.4-Dioxane	112
Bromodichloromethane	120
cis-1,3-Dichloropropene	114
4-Methyl-2-pentanone	111
Foluene	107
rans-1,3-Dichloropropene	119
1,1,2-Trichloroethane	110
Tetrachloroethane	105
retraction of the ne 2-Hexanone	109
z-nexanone Dibromochloromethane	120



# Client Sample ID: CCV Lab ID#: 0612240B-04A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

	7122102 Date of Collection: NA
File Name:	7122102 Date of Collection: NA
Dil. Factor:	1.00 Date of Analysis: 12/21/06 10:44 AM

Compound	%Recovery
Chlorobenzene	104
Ethyl Benzene	107
m,p-Xylene	98
o-Xylene	106
Styrene	100
Bromoform	120
Cumene	103
Propylbenzene	101
4-Ethyltoluene	99
1,3,5-Trimethylbenzene	106
1,2,4-Trimethylbenzene	106
1,3-Dichlorobenzene	103
1,4-Dichlorobenzene	103
alpha-Chlorotoluene	100
1,2-Dichlorobenzene	104
1,2,4-Trichlorobenzene	98
Hexachlorobutadiene	109
Naphthalene	108
1,1,1,2-Tetrachloroethane	80
1,2,3-Trichloropropane	68
Acetonitrile	98
Butylbenzene	60
Dibromomethane	73
Ethyl Acetate	104
sec-Butylbenzene	71
Vinyl Acetate	78

# Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Container Type: 127 Tree: Applicance		Method	
Surrogates	%Recovery	Limits	
1.2-Dichloroethane-d4	111	70-130	
Toluene-d8	101	70-130	
4-Bromofluorobenzene	102	70-130	



# Client Sample ID: LCS Lab ID#: 0612240B-05A

File Name:	7122108 Date of Collection: NA
	1.00 Date of Analysis: 12/21/06 04:52 PM
I Dil. Factor:	1.00 Date of Analysis: 12/21/06 04:52 PM

Compound	%Recovery
Freon 12	113
Freon 114	110
Chloromethane	98
Vinyl Chloride	111
1,3-Butadiene	122
Bromomethane	112
Chloroethane	65 Q
Freon 11	108
Ethanol	118
Freon 113	111
1,1-Dichloroethene	112
Acetone	120
2-Propanol	115
Carbon Disulfide	121
Methylene Chloride	103
Methyl tert-butyl ether	61
trans-1,2-Dichloroethene	118
Hexane	112
1,1-Dichloroethane	108
2-Butanone (Methyl Ethyl Ketone)	103
cis-1,2-Dichloroethene	108
Tetrahydrofuran	107
Chloroform	115
1,1,1-Trichloroethane	119
Cyclohexane	113
Carbon Tetrachloride	129
Benzene	104
Heptane	112
1,2-Dichloropropane	105
1,4-Dioxane	118
Bromodichloromethane	123
cis-1,3-Dichloropropene	73
4-Methyl-2-pentanone	113
Toluene	107
trans-1,3-Dichloropropene	112
1,1,2-Trichloroethane	109
Tetrachloroethene	109
2-Hexanone	105
Dibromochloromethane	114



# Client Sample ID: LCS Lab ID#: 0612240B-05A

# MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7122		f Collection: NA
Dil. Factor:		1.00	f Analysis: 12/21/06 04:52 PM

Ethyl Benzene       114         m.pXylene       95         o-Xylene       94         Styrene       107         Bromoform       94         Cumene       104         Propylbenzene       104         4-Ethyltoluene       105         1,3,5-Trimethylbenzene       90         1,2,4-Trimethylbenzene       75         1,3-Dichlorobenzene       110         1,4-Dichlorobenzene       108         alpha-Chlorotoluene       113         1,2-Dichlorobenzene       109         1,2,4-Trichlorobenzene       98         Hexachlorobutadiene       110         Naphthalene       144 Q         1,1,1,2-Tetrachloroethane       Not Spiked         Acetonitrile       Not Spiked         Buttylbenzene       Not Spiked         Dibromomethane       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         sec-Butylbenzene       Not Spiked	Compound	%Recovery
m,p-Xylene       95         o-Xylene       94         Styrene       107         Bromoform       94         Cumene       104         Propylbenzene       104         4-Ethyltoluene       105         1,3,5-Trimethylbenzene       90         1,2,4-Trimethylbenzene       75         1,3-Dichlorobenzene       110         1,4-Dichlorobenzene       108         alpha-Chlorotoluene       113         1,2-Dichlorobenzene       98         Hexachlorobutadiene       110         Naphthalene       144 Q         1,1,1,2-Tetrachloroethane       144 Q         1,2,3-Trichloropropane       Not Spiked         Acetonitrile       Not Spiked         Butylbenzene       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         sec-Butylbenzene       Not Spiked	Chlorobenzene	107
0-Xylene       94         Styrene       107         Bromoform       94         Cumene       104         Propylbenzene       104         4-Ethyltoluene       105         1,3,5-Trimethylbenzene       90         1,2,4-Trimethylbenzene       75         1,3-Dichlorobenzene       110         1,4-Dichlorobenzene       108         alpha-Chlorotoluene       113         1,2-Dichlorobenzene       98         Hexachlorobutadiene       110         Naphthalene       144 Q         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloropropane       Not Spiked         Acetonitrile       Not Spiked         Butylbenzene       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         sec-Butylbenzene       Not Spiked	Ethyl Benzene	114
Styrene         107           Bromoform         94           Cumene         104           Propylbenzene         104           4-Ethyltoluene         105           1,3,5-Trimethylbenzene         90           1,2,4-Trimethylbenzene         75           1,3-Dichlorobenzene         110           1,4-Dichlorobenzene         108           alpha-Chlorotoluene         113           1,2-Dichlorobenzene         109           1,2,4-Trichlorobenzene         98           Hexachlorobutadiene         110           Naphthalene         144 Q           1,1,1,2-Tetrachloroethane         Not Spiked           Acetonitrile         Not Spiked           Butylbenzene         Not Spiked           Dibromomethane         Not Spiked           Ethyl Acetate         Not Spiked           Sec-Butylbenzene         Not Spiked	m,p-Xylene	95
System       94         Cumene       104         Propylbenzene       104         4-Ethyltoluene       105         1,3,5-Trimethylbenzene       90         1,2,4-Trimethylbenzene       75         1,3-Dichlorobenzene       110         1,4-Dichlorobenzene       108         alpha-Chlorotoluene       113         1,2-Dichlorobenzene       109         1,2,4-Trichlorobenzene       98         Hexachlorobutadiene       110         Naphthalene       144 Q         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloropropane       Not Spiked         Acetonitrile       Not Spiked         Butylbenzene       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         sec-Butylbenzene       Not Spiked	o-Xylene	94
Cumene       104         Propylbenzene       104         4-Ethyltoluene       105         1,3,5-Trimethylbenzene       90         1,2,4-Trimethylbenzene       75         1,3-Dichlorobenzene       110         1,4-Dichlorobenzene       108         alpha-Chlorotoluene       113         1,2-Dichlorobenzene       109         1,2,4-Trichlorobenzene       98         Hexachlorobutadiene       110         Naphthalene       144 Q         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloropropane       Not Spiked         Acetonitrile       Not Spiked         Butylbenzene       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         Sec-Butylbenzene       Not Spiked	Styrene	107
Propylbenzene       104         4-Ethyltoluene       105         1,3,5-Trimethylbenzene       90         1,2,4-Trimethylbenzene       75         1,3-Dichlorobenzene       110         1,4-Dichlorobenzene       108         alpha-Chlorotoluene       113         1,2-Dichlorobenzene       109         1,2,4-Trichlorobenzene       98         Hexachlorobutadiene       110         Naphthalene       144 Q         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloropropane       Not Spiked         Acetonitrile       Not Spiked         Butylbenzene       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         sec-Butylbenzene       Not Spiked	Bromoform	94
4-Ethyltoluene       105         1,3,5-Trimethylbenzene       90         1,2,4-Trimethylbenzene       75         1,3-Dichlorobenzene       110         1,4-Dichlorobenzene       108         alpha-Chlorotoluene       113         1,2-Dichlorobenzene       109         1,2,4-Trichlorobenzene       98         Hexachlorobutadiene       110         Naphthalene       144 Q         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloropropane       Not Spiked         Acetonitrile       Not Spiked         Butylbenzene       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         sec-Butylbenzene       Not Spiked         Not Spiked       Not Spiked	Cumene	104
1,3,5-Trimethylbenzene       90         1,2,4-Trimethylbenzene       75         1,3-Dichlorobenzene       110         1,4-Dichlorobenzene       108         alpha-Chlorotoluene       113         1,2-Dichlorobenzene       109         1,2,4-Trichlorobenzene       98         Hexachlorobutadiene       110         Naphthalene       144 Q         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloropropane       Not Spiked         Acetonitrile       Not Spiked         Butylbenzene       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         sec-Butylbenzene       Not Spiked	Propylbenzene	104
1,2,4-Trimethylbenzene       75         1,3-Dichlorobenzene       110         1,4-Dichlorobenzene       108         alpha-Chlorotoluene       113         1,2-Dichlorobenzene       109         1,2,4-Trichlorobenzene       98         Hexachlorobutadiene       110         Naphthalene       144 Q         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloropropane       Not Spiked         Acetonitrile       Not Spiked         Butylbenzene       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         sec-Butylbenzene       Not Spiked	4-Ethyltoluene	105
1,3-Dichlorobenzene       110         1,4-Dichlorobenzene       108         alpha-Chlorotoluene       113         1,2-Dichlorobenzene       109         1,2,4-Trichlorobenzene       98         Hexachlorobutadiene       110         Naphthalene       144 Q         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloropropane       Not Spiked         Acetonitrile       Not Spiked         Butylbenzene       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         sec-Butylbenzene       Not Spiked	1,3,5-Trimethylbenzene	90
1,4-Dichlorobenzene       108         alpha-Chlorotoluene       113         1,2-Dichlorobenzene       109         1,2,4-Trichlorobenzene       98         Hexachlorobutadiene       110         Naphthalene       144 Q         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloropropane       Not Spiked         Acetonitrile       Not Spiked         Butylbenzene       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         sec-Butylbenzene       Not Spiked	1,2,4-Trimethylbenzene	75
alpha-Chlorotoluene       113         1,2-Dichlorobenzene       109         1,2,4-Trichlorobenzene       98         Hexachlorobutadiene       110         Naphthalene       144 Q         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloropropane       Not Spiked         Acetonitrile       Not Spiked         Butylbenzene       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         sec-Butylbenzene       Not Spiked	1,3-Dichlorobenzene	110
1,2-Dichlorobenzene       109         1,2,4-Trichlorobenzene       98         Hexachlorobutadiene       110         Naphthalene       144 Q         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloropropane       Not Spiked         Acetonitrile       Not Spiked         Butylbenzene       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         sec-Butylbenzene       Not Spiked	1,4-Dichlorobenzene	108
1,2,4-Trichlorobenzene       98         Hexachlorobutadiene       110         Naphthalene       144 Q         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloropropane       Not Spiked         Acetonitrile       Not Spiked         Butylbenzene       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         sec-Butylbenzene       Not Spiked	alpha-Chlorotoluene	113
Hexachlorobutadiene Naphthalene 110 144 Q 1,1,1,2-Tetrachloroethane 1,2,3-Trichloropropane Not Spiked 1,2,3-Trichloropropane Not Spiked Not Spiked Butylbenzene Dibromomethane Ethyl Acetate Sec-Butylbenzene Not Spiked Not Spiked Not Spiked Not Spiked Not Spiked Not Spiked	1,2-Dichlorobenzene	109
Naphthalene 1,1,1,2-Tetrachloroethane Not Spiked 1,2,3-Trichloropropane Not Spiked 1,2,3-Trichloropropane Not Spiked Not Spiked Acetonitrile Not Spiked Butylbenzene Not Spiked Dibromomethane Not Spiked Ethyl Acetate Not Spiked Sec-Butylbenzene Not Spiked Not Spiked Sec-Butylbenzene Not Spiked	1,2,4-Trichlorobenzene	98
1,1,1,2-Tetrachloroethane 1,2,3-Trichloropropane Not Spiked Acetonitrile Butylbenzene Dibromomethane Ethyl Acetate Sec-Butylbenzene Not Spiked Not Spiked Not Spiked Not Spiked Not Spiked Not Spiked	Hexachlorobutadiene	110
1,2,3-Trichloropropane  Acetonitrile  Butylbenzene  Dibromomethane  Ethyl Acetate  Sec-Butylbenzene  Not Spiked  Not Spiked  Not Spiked  Not Spiked  Not Spiked	Naphthalene	144 Q
Acetonitrile Not Spiked Butylbenzene Not Spiked Dibromomethane Not Spiked Ethyl Acetate Not Spiked sec-Butylbenzene Not Spiked	1,1,1,2-Tetrachloroethane	Not Spiked
Butylbenzene Not Spiked Dibromomethane Not Spiked Ethyl Acetate Not Spiked sec-Butylbenzene Not Spiked	1,2,3-Trichloropropane	Not Spiked
Dibromomethane Not Spiked Ethyl Acetate Not Spiked sec-Butylbenzene Not Spiked	Acetonitrile	Not Spiked
Ethyl Acetate Not Spiked sec-Butylbenzene Not Spiked	Butylbenzene	Not Spiked
sec-Butylbenzene Not Spiked	Dibromomethane	Not Spiked
	Ethyl Acetate	Not Spiked
Vinyl Acetate 103	sec-Butylbenzene	Not Spiked
	Vinyl Acetate	103

#### Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	113	70-130	
Toluene-d8	101	70-130	
4-Bromofluorobenzene	99	70-130	

Company Name: Golder Associates  Project Name: Solvia Soil Napor Sampling Event  Reviewer: J. White				Project Manager: Wi Haddock  Project Number: 043 - 967-0  Validation Date: 1/11/07			
Analytic Matrix:	Air Soil/Sed Water Waste		S EV	11 5 CA	12129B		
NOTE:	Please provide calculation in Comment areas or	on the i	back (if	on the back	please indicate in comment areas).		
Field In	formation	YES	NO	NA	COMMENTS		
a)	Sampling dates noted?	The state of the s					
b)	Sampling team indicated?						
c)	Sample location noted?	The second					
d)	Sample depth indicated (Soils)?	September 1					
e)	Sample type indicated (grab/composite)?						
f)	Field QC noted?				was a second of the second of		
g)	Field parameters collected (note types)?	Ø,			PIN		
h)	Field Calibration within control limits?						
i)	Notations of unacceptable field conditions/performa	nces fro	m field lo	ogs or field n	otes?		
j)	Does the laboratory narrative indicate deficiencies?  Note Deficiencies:						
Chain-c	of-Custody (COC)	YES	NO	NA	COMMENTS		
a)	Was the COC properly completed?						
b)	Was the COC signed by both field and laboratory personnel?						
c)	Were samples received in good condition?						
Genera	I (reference QAPP or Method)	YES	NO	NA	COMMENTS		
a)	Were hold times met for sample pretreatment?	Ø					
b)	Were hold times met for sample analysis?						
c)	Were the correct preservatives used?			₩ ·			
d)	Was the correct method used?						
e)	Were appropriate reporting limits achieved?						
f)	Were any sample dilutions noted?						
g)	Were any matrix problems noted?						

Blanks		YES	NO ,	NA	COMMENTS
a)	Were analytes detected in the method blank(s)?		<b>9</b>		
b)	Were analytes detected in the field blank(s)?			Ø	
c)	Were analytes detected in the equipment blank(s)?				
d)	Were analytes detected in the trip blank(s)?				
Labora	tory Control Sample (LCS)	YES	NO	NA	COMMENTS
a)	Was a LCS analyzed once per SDG?				
b)	Were the proper compounds included in the LCS?	Ø			
c)	Was the LCS accuracy criteria met?				cis-1,3-8, Enteropropens, Styrens, 1,2,4-Trimetry/benzens
Duplica	ates	YES	NO	NA	COMMENTS
a)	Were field duplicates collected (note original and de	uplicate s	ample na	mes)?	
			P		
b)	Were field dup precision criteria met (note RPD)?				
c)	Were lab duplicates analyzed (note original and du	plicate sa	mples)?		
d)	Were lab dup. precision criteria met (note RPD)?				
Blind S	tandards	YES	NO	NA	COMMENTS
a)	Was a blind standard used (indicate name,				
	compounds included and concentrations)?	-			
b)	Was the %D within control limits?				
Matrix	Spike/Matrix Spike Duplicate (MS/MSD)	YES	NO	NA	COMMENTS
a)	Was MS accuracy criteria met?				
	Recovery could not be calculated since sample contained high concentration of analyte?				
b)	Was MSD accuracy criteria met?		П		
D)	Recovery could not be calculated since sample				
	contained high concentration of analyte?				
c)	Were MS/MSD precision criteria met?				
Surrog	ate Spikes	YES	NO	NA	COMMENTS
a)	Were surrogate recoveries within control limits?	Y			
b)	Were surrogate recoveries not calculated due to dilutions?			Was and the second	
Comm	ents/Notes:				

#### Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
54-5	Freon 11		7	Defections in Equip Blank
	Ethanol			
	Acetone			
	2-Butanone			
	Berrene			
	4-methyl-2- Pentauova	18xxxx		
	Mp-Xylerce			
	0-xy2-sh-			<u> </u>
V	1,2,4- Triorating ben yave			LCS outside control limits
5v-6	Freon 11		J	
	Ethanol		L.	Detections in Equip Blank
	Acetone			
	2-Propanol		- Land Company	
	2-Butanone			
	Benzene		gggzent (illel)	
	m,p-xylene	-	A CONTRACTOR OF THE PARTY OF TH	
	0-xylene		The state of the s	
	4 - ethyl towens			V
V	1/2,4-trimethylberzene			LCS outside Control limits



#### **WORK ORDER #:** 0612129B

Work Order Summary

CLIENT:

Mr Mark Haddock

BILL TO: Mr. Mark Haddock

Golder Associates, Inc

Golder Associates, Inc 820 South Main Street

820 South Main Street Suite 100

St. Charles, MO 63301

Suite 100

St. Charles, MO 63301

PHONE:

(636)-724-9191

**P.O.** # 043-9670

FAX:

(636-724-9323

PROJECT#

043-9670 Solutia Soil Vapor Sampling

DATE RECEIVED: DATE COMPLETED: 12/06/2006 12/19/2006

CONTACT:

Event Brandon Dunmore

FRACTION #	NAME
01A	SV-5 Cerro
02A	SV-6 Cerro
03A	Lab Blank
04A	CCV
05A	LCS

	RECEIPT
<u>TEST</u>	VAC./PRES.
Modified TO-15	4.0 "Hg
Modified TO-15	2 0 "Hg
Modified TO-15	NA
Modified TO-15	NA
Modified TO-15	NA

CERTIFIED BY:

Anda) A. Fruman

12/19/06 DATE:

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP - AI 30763, NJ NELAP - CA004 NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act, Accreditation number: E87680, Effective date: 07/01/06, Expiration date: 06/30/07

Air Toxics Ltd certifies that the test results contained in this report meet all requirements of the NELAC standards

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# LABORATORY NARRATIVE Modified TO-15 Golder Associates, Inc. Workorder# 0612129B

Two 6 Liter Summa Special (100% Certified) samples were received on December 06, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 1.0 liter of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

Requirement	TO-15	ATL Modifications
ICAL %RSD acceptance criteria	+- 30% RSD with 2 compounds allowed out to < 40% RSD	30% RSD with 4 compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	= 30% Difference with four allowed out up to </=40%; flag and narrate outliers</td
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt 136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request

#### **Receiving Notes**

The Chain of Custody (COC) information for samples SV-5 Cerro and SV-6 Cerro did not match the entries on the sample tags with regard to sample identification. The discrepancy was noted in the Sample Receipt Confirmation email/fax and the information on the COC was used to process and report the samples.

#### **Analytical Notes**

The reported LCS for each daily batch has been derived from more than one analytical file.

#### **Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

- B Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
  - J Estimated value.
  - E Exceeds instrument calibration range.
  - S Saturated peak.



- Q Exceeds quality control limits.
- U Compound analyzed for but not detected above the reporting limit.
- UJ- Non-detected compound associated with low bias in the CCV
- N The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

- a-File was requantified
- b-File was quantified by a second column and detector
- r1-File was requantified for the purpose of reissue



# **Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

Client Sample ID: SV-5 Cerro

Lab ID#: 0612129B-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.16	0.53	077	2.6
Chloromethane	0.16	0.27	0.32	0.56
1,3-Butadiene	0 16	0.22	0.34	0.48
Freon 11	0.16	0 17 5	0.87	0.98
Ethanol	0.78	1.0 J	1.5	1.9
Acetone	0.78	8.7 5	1.8	20
Hexane	0.16	3.8	0.55	14
2-Butanone (Methyl Ethyl Ketone)	0.16	0.78 🕽	0 46	2.3
Chloroform	0.16	4.1	0.76	20
1,1,1-Trichloroethane	0.16	0.58	0.84	3.1
Cyclohexane	0.16	1.8	0.53	6.3
Benzene	0.16	1.1 🏋	0.50	3.6
Heptane	0.16	2.0	0.64	8.4
4-Methyl-2-pentanone	016	0.23 J	0.63	0.95
Toluene	0.16	2.7	0.58	10
Ethyl Benzene	0 16	0.73	0.67	3.2
m,p-Xylene	0.16	0.84 ブ	0 67	3.7
o-Xylene	0 16	0.31 J	0 67	1.3
4-Ethyltoluene	0.16	0 15 J	0.76	0.75 J
1,3,5-Trimethylbenzene	0.16	0.20	0.76	0.98
1,2,4-Trimethylbenzene	0.16	0.30J	0.76	1.5
Butylbenzene	0.78	0.97	4.2	5.3

Client Sample ID: SV-6 Cerro

Lab ID#: 0612129B-02A

ab 1D#. 0012125D-02A	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(uG/m3)	(uG/m3)
Freon 12	0 14	0.57	0.71	2.8
Chloromethane	0.14	0.22	030	0.45
Vinyl Chloride	0 14	3.0	0.37	7.6
Freon 11	0 14	0.27 ]	0.81	1.5
Ethanol	0.72	1.2 5	1.4	2.2
Freon 113	0 14	0.18	11	1.4
1,1-Dichloroethene	0.14	0.26	057	1.0
Acetone	0.72	6.2 J	17	15
2-Propanol	0.72	1.0 3	1.8	2.5
Hexane	0.14	0.23	0.51	0.81



# Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

# Client Sample ID: SV-6 Cerro

Lab ID#: 0612129B-02A				
1,1-Dichloroethane	014	5 5	0 58	22
2-Butanone (Methyl Ethyl Ketone)	0 14	0.76 🖫	0.42	2.2
cis-1,2-Dichloroethene	0.14	25	0 57	99
Chloroform	0.14	0 68	0.70	3.3
1,1,1-Trichloroethane	0.14	9.9	0.78	54
Cyclohexane	0.14	0.35	0.50	1.2
Benzene	0.14	0.423	0.46	13
Heptane	0.14	0.28	0.59	1.1
Toluene	0.14	77	0.54	29
Tetrachloroethene	0.14	31	0.98	210
Ethyl Benzene	0.14	0.87	0 62	3.8
m,p-Xylene	0.14	24 🕽	0.62	10
o-Xylene	0.14	0.59 💆	0.62	26
4-Ethyltoluene	0.14	0.30 5	0.71	15
1,3,5-Trimethylbenzene	0.14	0.24	0.71	1.2
1,2,4-Trimethylbenzene	0.14	0.53丁	0.71	2.6
Butylbenzene	0.72	1.7	40	9.4



# Client Sample ID: SV-5 Cerro Lab ID#: 0612129B-01A

File Name: Dil. Factor:	g121420 1.55		Date of Collection: Date of Analysis: 1	\$P\$ 电电影 "我们就是我们的的事情,只要不是一个人的。"
	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(uG/m3)	(uG/m3)
Freon 12	0.16	0.53	0.77	2.6
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0.16	0.27	0.32	0.56
Vinyl Chloride	0.16	Not Detected	0.40	Not Detected
1,3-Butadiene	0.16	0.22	0.34	0.48
Bromomethane	0.16	Not Detected	0.60	Not Detected
Chloroethane	0.16	Not Detected	0.41	Not Detected
Freon 11	0.16	0.17	0.87	0 98
Ethanol	0.78	1.0	15	1.9
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.61	Not Detected
Acetone	0.78	8.7	1.8	20
2-Propanol	0.78	Not Detected	1.9	Not Detected
Carbon Disulfide	0.78	Not Detected	2 4	Not Detected
Methylene Chloride	0.31	Not Detected	1.1	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.56	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.61	Not Detected
Hexane	0.16	3.8	0.55	14
1,1-Dichloroethane	0.16	Not Detected	0 63	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.16	0.78	0.46	2.3
cis-1,2-Dichloroethene	0.16	Not Detected	0.61	Not Detected
Tetrahydrofuran	0.78	Not Detected	23	Not Detected
Chloroform	0.16	4.1	0.76	20
1,1,1-Trichloroethane	0.16	0.58	0.84	3.1
Cyclohexane	0.16	1.8	0.53	6.3
Carbon Tetrachloride	0.16	Not Detected	0.98	Not Detected
Benzene	0.16	1.1	0.50	3.6
Heptane	0.16	2.0	0.64	8.4
1,2-Dichloropropane	0.16	Not Detected	0.72	Not Detected
1,4-Dioxane	0.16	Not Detected	0.56	Not Detected
Bromodichloromethane	0.16	Not Detected	1.0	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.70	Not Detected
4-Methyl-2-pentanone	0.16	0 23	0 63	0.95
Toluene	0.16	2.7	0 58	10
trans-1,3-Dichloropropene	0.16	Not Detected	0.70	Not Detected
1,1,2-Trichloroethane	0 16	Not Detected	0.84	Not Detected
Tetrachloroethene	0.16	Not Detected	1.0	Not Detected
2-Hexanone	0.78	Not Detected	3.2	Not Detected
Dibromochloromethane	0.16	Not Detected	13	Not Detected



# Client Sample ID: SV-5 Cerro Lab ID#: 0612129B-01A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	g121420 1.55		Date of Collection: Date of Analysis: 1	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Chlorobenzene	0.16	Not Detected	0.71	Not Detected
Ethyl Benzene	016	0.73	067	3.2
m,p-Xylene	0.16	0.84	0.67	3.7
o-Xylene	0.16	0.31	0.67	1 3
Styrene	0.16	Not Detected	0.66	Not Detected
Bromoform	0.16	Not Detected	1.6	Not Detected
Cumene	0.16	Not Detected	0.76	Not Detected
Propylbenzene	0.16	Not Detected	0.76	Not Detected
4-Ethyltoluene	0.16	0.15 J	0.76	0.75 J
1,3,5-Trimethylbenzene	0.16	0.20	0.76	0.98
1,2,4-Trimethylbenzene	0.16	0.30	0.76	1.5
1,3-Dichlorobenzene	016	Not Detected	0.93	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.93	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	080	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.93	Not Detected
1,2,4-Trichlorobenzene	0.78	Not Detected	5.8	Not Detected
Hexachlorobutadiene	0.78	Not Detected	8.3	Not Detected
Naphthalene	078	Not Detected	41	Not Detected
1,1,1,2-Tetrachloroethane	0.78	Not Detected	5.3	Not Detected
1,2,3-Trichloropropane	0.78	Not Detected	4.7	Not Detected
Acetonitrile	0.78	Not Detected	1.3	Not Detected
Butylbenzene	0.78	0.97	4.2	5.3
Dibromomethane	0.78	Not Detected	5.5	Not Detected
Ethyl Acetate	0.78	Not Detected	2.8	Not Detected
sec-Butylbenzene	0.78	Not Detected	4.2	Not Detected
Vinyl Acetate	3.1	Not Detected	11	Not Detected

#### J = Estimated value

Container Type: 6 Liter Summa Special (100% Certified)

Container Type: O Lite: Callinia Cparia (	• • • • • • • • • • • • • • • • • • • •	Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	94	70-130



# Client Sample ID: SV-6 Cerro Lab ID#: 0612129B-02A

File Name: Dil. Factor:	g121422 1.44		Date of Collection: 12/5/06 Date of Analysis: 12/14/06 09:46 PM	
	Rot, Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(uG/m3)	(uG/m3)
Freon 12	0.14	0.57	0 71	2.8
Freon 114	0.14	Not Detected	1.0	Not Detected
Chloromethane	0 14	0.22	0 30	0 45
Vinyl Chloride	0.14	3.0	0.37	7.6
1,3-Butadiene	0.14	Not Detected	0.32	Not Detected
Bromomethane	0.14	Not Detected	0.56	Not Detected
Chloroethane	0.14	Not Detected	0.38	Not Detected
Freon 11	0.14	0.27	0.81	15
Ethanol	0.72	1.2	1.4	22
Freon 113	0.14	0.18	1.1	1.4
1,1-Dichloroethene	0.14	0.26	0.57	1.0
Acetone	0.72	6.2	1.7	15
2-Propanol	0.72	1.0	1.8	2.5
Carbon Disulfide	0.72	Not Detected	2.2	Not Detected
Methylene Chloride	0.29	Not Detected	1.0	Not Detected
Methyl tert-butyl ether	0.14	Not Detected	0.52	Not Detected
rans-1,2-Dichloroethene	0.14	Not Detected	0.57	Not Detected
Hexane	0.14	023	0.51	0.81
1,1-Dichloroethane	0.14	5.5	058	22
2-Butanone (Methyl Ethyl Ketone)	0.14	0.76	0.42	2.2
cis-1,2-Dichloroethene	0.14	25	0.57	99
Tetrahydrofuran	0.72	Not Detected	2.1	Not Detected
Chloroform	0.14	0.68	0.70	33
1,1,1-Trichloroethane	0.14	9.9	0.78	54
Cyclohexane	0.14	0.35	0.50	1.2
Carbon Tetrachloride	0.14	Not Detected	0.91	Not Detected
Benzene	0 14	0.42	0.46	1.3
Heptane	0.14	0.28	0 59	1.1
1,2-Dichloropropane	0.14	Not Detected	0.66	Not Detected
1,4-Dioxane	0.14	Not Detected	0.52	Not Detected
3romodichloromethane	0.14	Not Detected	0.96	Not Detected
cis-1,3-Dichloropropene	0.14	Not Detected	0.65	Not Detected
1-Methyl-2-pentanone	0 14	Not Detected	0.59	Not Detected
Foluene	0.14	7.7	0.54	29
rans-1,3-Dichloropropene	0.14	Not Detected	0.65	Not Detected
1,1,2-Trichloroethane	0.14	Not Detected	0.78	Not Detected
Tetrachloroethene	0.14	31	0.98	210
2-Hexanone	0.72	Not Detected	2.9	Not Detected
Dibromochloromethane	0.14	Not Detected	1.2	Not Detected



# Client Sample ID: SV-6 Cerro

#### Lab ID#: 0612129B-02A

# MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	g121422 1.44			Date of Collection: 12/5/06 Date of Analysis: 12/14/06 09:46 PM	
Compound	Røt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)	
Chlorobenzene	0.14	Not Detected	0.66	Not Detected	
Ethyl Benzene	0.14	0.87	0.62	3.8	
m,p-Xylene	0.14	2.4	0.62	10	
o-Xylene	0 14	0.59	0.62	2.6	
Styrene	0.14	Not Detected	0.61	Not Detected	
Bromoform	0.14	Not Detected	1.5	Not Detected	
Cumene	0.14	Not Detected	0.71	Not Detected	
Propylbenzene	0.14	Not Detected	0.71	Not Detected	
4-Ethyltoluene	0.14	0.30	0.71	1.5	
1,3,5-Trimethylbenzene	0.14	0.24	0.71	1.2	
1.2.4-Trimethylbenzene	0.14	0.53	0 71	2.6	
1.3-Dichlorobenzene	0.14	Not Detected	0.86	Not Detected	
1,4-Dichlorobenzene	0.14	Not Detected	0.86	Not Detected	
alpha-Chlorotoluene	0.14	Not Detected	0.74	Not Detected	
1,2-Dichlorobenzene	0.14	Not Detected	0.86	Not Detected	
1,2,4-Trichlorobenzene	0.72	Not Detected	5.3	Not Detected	
Hexachlorobutadiene	0.72	Not Detected	77	Not Detected	
Naphthalene	0.72	Not Detected	3.8	Not Detected	
1,1,1,2-Tetrachloroethane	0.72	Not Detected	4.9	Not Detected	
1,2,3-Trichloropropane	0.72	Not Detected	4.3	Not Detected	
Acetonitrile	0.72	Not Detected	1.2	Not Detected	
Butylbenzene	072	1.7	4.0	9.4	
Dibromomethane	0.72	Not Detected	5.1	Not Detected	
Ethyl Acetate	0.72	Not Detected	2.6	Not Detected	
sec-Butylbenzene	0.72	Not Detected	4.0	Not Detected	
Vinyl Acetate	2.9	Not Detected	10	Not Detected	

# Container Type: 6 Liter Summa Special (100% Certified)

Container Types o Lites Cannot a present (		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	101	70-130	
Toluene-d8	98	70-130	
4-Bromofluorobenzene	92	70-130	



# Client Sample ID: Lab Blank Lab ID#: 0612129B-03A

File Name: Dil. Factor:	g121414 1.00		Date of Collection: NA Date of Analysis: 12/14/06 04:12 PM	
	Rot. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(uG/m3)	(uG/m3)
Freon 12	0.10	Not Detected	0.49	Not Detected
Freon 114	010	Not Detected	070	Not Detected
Chloromethane	0.10	Not Detected	0.21	Not Detected
Vinyl Chloride	0.10	Not Detected	0.26	Not Detected
1,3-Butadiene	0.10	Not Detected	0.22	Not Detected
Bromomethane	0 10	Not Detected	0.39	Not Detected
Chloroethane	010	Not Detected	0.26	Not Detected
Freon 11	010	Not Detected	0.56	Not Detected
Ethanol	0.50	Not Detected	0.94	Not Detected
Freon 113	0.10	Not Detected	0.77	Not Detected
1,1-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Acetone	0.50	Not Detected	1.2	Not Detected
2-Propanol	0.50	Not Detected	1.2	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
Methylene Chloride	0.20	Not Detected	0.69	Not Detected
Methyl tert-butyl ether	0.10	Not Detected	0.36	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detecte
Hexane	0.10	Not Detected	0.35	Not Detected
1,1-Dichloroethane	0.10	Not Detected	0.40	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.10	Not Detected	0.29	Not Detected
cis-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detecte
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detecte
Chloroform	0.10	Not Detected	0.49	Not Detecte
1,1,1-Trichloroethane	0.10	Not Detected	0.54	Not Detecte
Cyclohexane	0.10	Not Detected	0.34	Not Detecte
Carbon Tetrachloride	0.10	Not Detected	0.63	Not Detecte
Benzene	0.10	Not Detected	0.32	Not Detecte
Heptane	0.10	Not Detected	0.41	Not Detected
1,2-Dichloropropane	0.10	Not Detected	0.46	Not Detected
1,4-Dioxane	0.10	Not Detected	0.36	Not Detecte
Bromodichloromethane	0.10	Not Detected	0.67	Not Detecte
cis-1,3-Dichloropropene	0.10	Not Detected	0 45	Not Detecte
4-Methyl-2-pentanone	0.10	Not Detected	0.41	Not Detecte
Toluene	0.10	Not Detected	0.38	Not Detecte
trans-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detecte
1,1,2-Trichloroethane	0.10	Not Detected	0.54	Not Detecte
Tetrachloroethene	0.10	Not Detected	0.68	Not Detected
2-Hexanone	0.50	Not Detected	2.0	Not Detecte
z-nexanone Dibromochloromethane	0.10	Not Detected	0.85	Not Detecte



## Client Sample ID: Lab Blank Lab ID#: 0612129B-03A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	g121414 1.00		Date of Collection: N	tan ni diwakaza ni waki waki iku na wati basa ni Raji 1996.
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Chlorobenzene	0.10	Not Detected	0.46	Not Detected
Ethyl Benzene	0.10	Not Detected	0.43	Not Detected
m,p-Xylene	0.10	Not Detected	0.43	Not Detected
o-Xylene	0 10	Not Detected	0.43	Not Detected
Styrene	0.10	Not Detected	0.42	Not Detected
Bromoform	0.10	Not Detected	1.0	Not Detected
Cumene	0.10	Not Detected	0.49	Not Detected
Propylbenzene	0.10	Not Detected	0.49	Not Detected
4-Ethyltoluene	0.10	Not Detected	0.49	Not Detected
1,3,5-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,2,4-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,3-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,4-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
alpha-Chlorotoluene	0.10	Not Detected	052	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2,4-Trichlorobenzene	0 50	Not Detected	3.7	Not Detected
Hexachlorobutadiene	0 50	Not Detected	5.3	Not Detected
Naphthalene	0 50	Not Detected	2.6	Not Detected
1,1,1,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
1,2,3-Trichloropropane	0.50	Not Detected	3.0	Not Detected
Acetonitrile	0.50	Not Detected	0.84	Not Detected
Butylbenzene	0.50	Not Detected	2.7	Not Detected
Dibromomethane	0 50	Not Detected	36	Not Detected
Ethyl Acetate	0 50	Not Detected	18	Not Detected
sec-Butylbenzene	0.50	Not Detected	2.7	Not Detected
Vinyl Acetate	2.0	Not Detected	70	Not Detected
Container Type: NA - Not Applicable				Method
Surrogates		%Recovery		Limits
1.2-Dichloroethane-d4		103		70-130
Toluene-d8		91		70-130
4-Bromofluorobenzene		96		70-130



## Client Sample ID: CCV Lab ID#: 0612129B-04A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

	Date of Collection: NA
File Name: q121402	
Dil. Factor: 1.00	Date of Analysis: 12/14/06 08:15 AM

Compound	%Recovery
Freon 12	112
Freon 114	109
Chloromethane	130
Vinyl Chloride	107
1,3-Butadiene	102
Bromomethane	97
Chloroethane	105
Freon 11	100
Ethanol	93
Freon 113	102
1,1-Dichloroethene	105
Acetone	105
2-Propanol	87
Carbon Disulfide	111
Methylene Chloride	103
Methyl tert-butyl ether	85
trans-1,2-Dichloroethene	97
Hexane	94
1,1-Dichloroethane	103
2-Butanone (Methyl Ethyl Ketone)	104
cis-1,2-Dichloroethene	96
Tetrahydrofuran	100
Chloroform	102
1,1,1-Trichloroethane	100
Cyclohexane	100
Carbon Tetrachloride	100
Benzene	98
Heptane	103
1,2-Dichloropropane	106
1,4-Dioxane	90
Bromodichloromethane	95
cis-1,3-Dichloropropene	91
4-Methyl-2-pentanone	96
Toluene	96
trans-1,3-Dichloropropene	104
1,1,2-Trichloroethane	108
Tetrachloroethene	99
2-Hexanone	89
Dibromochloromethane	100



## Client Sample ID: CCV Lab ID#: 0612129B-04A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: q121402 Date of Collect	
Dil. Factor: 1.00 Date of Analy	sis: 12/14/06 08:15 AM
Dil. Factor: 1.00 Date of Analy	

Compound	%Recovery
Chlorobenzene	103
Ethyl Benzene	102
m,p-Xylene	98
o-Xylene	92
Styrene	100
Bromoform	101
Cumene	90
Propylbenzene	94
4-Ethyltoluene	91
1,3,5-Trimethylbenzene	89
1,2,4-Trimethylbenzene	88
1,3-Dichlorobenzene	86
1,4-Dichlorobenzene	84
alpha-Chlorotoluene	93
1,2-Dichlorobenzene	81
1,2,4-Trichlorobenzene	74
Hexachlorobutadiene	78
Naphthalene	107
1,1,2-Tetrachloroethane	125
1,2,3-Trichloropropane	96
Acetonitrile	98
Butylbenzene	100
Dibromomethane	88
Ethyl Acetate	95
sec-Butylbenzene	98
Vinyl Acetate	98

## Container Type: NA - Not Applicable

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	97	70-130	
Toluene-d8	103	70-130	
4-Bromofluorobenzene	98	70-130	



## Client Sample ID: LCS Lab ID#: 0612129B-05A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: g121404 Date of Collection: NA	
Dil. Factor: 1.00 Date of Analysis: 12/14/06 09:14 AM	

Compound	%Recovery
Freon 12	110
Freon 114	105
Chloromethane	122
Vinyl Chloride	100
1,3-Butadiene	103
Bromomethane	96
Chloroethane	103
Freon 11	102
Ethanol	106
Freon 113	101
1.1-Dichloroethene	105
Acetone	106
2-Propanol	94
Carbon Disulfide	117
Methylene Chloride	108
Methyl tert-butyl ether	88
trans-1,2-Dichloroethene	100
Hexane	96
1,1-Dichloroethane	105
2-Butanone (Methyl Ethyl Ketone)	110
cis-1,2-Dichloroethene	100
Tetrahydrofuran	102
Chloroform	101
1,1,1-Trichloroethane	102
Cyclohexane	102
Carbon Tetrachloride	99
Benzene	100
	102
Heptane 1,2-Dichloropropane	107
1,4-Dioxane	93
Bromodichloromethane	92
cis-1,3-Dichloropropene	59 Q
	97
4-Methyl-2-pentanone	98
Toluene	114
trans-1,3-Dichloropropene 1,1,2-Trichloroethane	112
• •	106
Tetrachloroethene	91
2-Hexanone	99
Dibromochloromethane	00



## Client Sample ID: LCS Lab ID#: 0612129B-05A

## MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

	그래요 아내는 아내가 얼마나는 그는 그는 것이 없는데 이번 살아왔다. 그런 아내는 사람들이 되었다. 그는 그가 있다는 그는
내용 하는 문 경기가 가지 얼굴 등에서 가지 하는 가장이 가는 그는 가지 않는데 그 가지 않는데 본 가지 않는데 없다.	에게 하루하게 되는 집에 가는 중국 시간에 가는 일이 있는 점점 가장 무슨 사람들이 되는 것이 하는데 되고 한 것이다. 그런 그리고 아버지는 것이 없다면 나는 사람이다.
· 18 전 18 등 보는 경험을 하는 것이 되는 것이 되었다. 그는 사람들이 보고 있는 것이 없는 사람들이 되었다.	그 전 그러운 학교에 가는 항상적으로 되는 사람들이 작용하다. 이 전에 가장 그리는 현실 이 경찰 사용하다. 그 전 교육은 이번 그리고 함께 다른 그리고 하는 것이다. 네트
4. 그는 마음을 하는 경우에 가장 그렇게 되는 것이 되는 것이 없는 것이 없는 것이 없다.	이 하지 않는 살을 보지 않는 이 문에서 있어요. 이 하면, 그들이 아니라 있다. 나는 사람들이 가는 사람들은 그 사람들이 가는 그렇게 되었다. 그는 살살이 되었다. 이 나를 하다니다.
내 그 프로바이 말을 내려가 되었습니다. 그런 사람들은 사람들이 가지 하는 것이 되었습니다. 아니라 함께 함	121404 Date of Collection: NA
File Name:	121404 Date of Collection: NA
1 1 110 11011101	그는 그래 그는 그들은 그는 그를 가고 있었다. 그를 가는 그는 그를 가지 않는 그를 가지 하는 그를 가지 않는 그를
排除 그렇게 돌아보다 청사회 장사회 가는 어머니는 사람들이 가는 사람들이 되었다. 그는 사람들이 가지 않는 그 그들은 그를 살아보는 것이다.	원가 있다는 사용하게 되었다는 이 사람들은 회에서는 사용하셨다. 그들은 사람들은 보면 선생님의 중심하다는 중심하는 것은 사용으로 모르고를 보고 있다면 보다를 보고 있다.
4. 三물: 漢字 전달 이 그 사이 어린 그는 그 그 사이를 보고 살아 가다. 사이 아니	1.00 Date of Analysis: 12/14/06 09:14 AM
Dil. Factor:	1.00 Date of Analysis: 12/14/06 09:14 AM
	하면 그렇게 그는 그는 그가 있다면 하는 그를 살았다면 모든 것 같아요? 얼마를 하는 것은 사람들이 되어 가장하는 그는 그는 그림에 하는 그를 살아가는 그는 그림에 하는 것이다. 그는 그림은 사람들이

Chlorobenzene         109           Ethyl Benzene         119           m.pXylene         100           o-Xylene         87           Styrene         69 Q           Bromoform         86           Cumene         92           Propylbenzene         98           4-Ethyltoluene         98           4-Ethyltoluene         98           4,2,4-Trimethylbenzene         66 Q           1,3-Dichlorobenzene         101           4,4-Dichlorobenzene         101           3,2-Dichlorobenzene         99           3,2-Dichlorobenzene         97           1,2,4-Trichlorobenzene         97           1,2,4-Trichlorobenzene         97           Hexachlorobutadiene         80           Naphthalene         98           1,1,1,2-Tetrachloroethane         Not Spiked           Acetonitrile         Not Spiked           Butylbenzene         Not Spiked           Dibromomethane         Not Spiked           Dibromomethane         Not Spiked           Sec-Butylbenzene         Not Spiked	Compound	%Recovery
Ethyl Benzene         119           m.pXylene         100           o-Xylene         87           Styrene         69 Q           Bromoform         86           Cumene         92           Propylbenzene         98           4-Ethyltoluene         98           4-Ethyltoluene         98           1,3,5-Trimethylbenzene         84           1,2,4-Trimethylbenzene         101           1,3-Dichlorobenzene         101           3elpha-Chlorotoluene         110           1,2-Dichlorobenzene         97           1,2,4-Trichlorobenzene         97           Hexachlorobutadiene         80           Naphthalene         98           1,1,1,2-Tetrachloroethane         Not Spiked           Acetonitrile         Not Spiked           Butylbenzene         Not Spiked           Dibromomethane         Not Spiked           Dibromomethane         Not Spiked           Sec-Butylbenzene         Not Spiked		109
m.pXylene       100         o-Xylene       87         Styrene       69 Q         Bromoform       86         Cumene       92         Propylbenzene       98         4-Ethyltoluene       98         1,3,5-Trimethylbenzene       84         1,2,4-Trimethylbenzene       66 Q         1,3-Dichlorobenzene       101         1,4-Dichlorobenzene       99         alpha-Chlorotoluene       110         1,2-Dichlorobenzene       97         1,2,4-Trichlorobenzene       75         Hexachlorobutadiene       80         Naphthalene       98         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloroppane       Not Spiked         Acetonitrile       Not Spiked         Butylbenzene       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         sec-Butylbenzene       Not Spiked		119
bo-Xylene         87           Styrene         69 Q           Bromoform         86           Cumene         92           Propylbenzene         98           4-Ethyltoluene         98           1,3,5-Trimethylbenzene         84           1,2,4-Trimethylbenzene         101           1,4-Dichlorobenzene         101           1,4-Dichlorobenzene         99           alpha-Chlorotoluene         110           1,2-Dichlorobenzene         97           1,2,4-Trichlorobenzene         75           Hexachlorobutadiene         80           Naphthalene         80           Naphthalene         Not Spiked           1,2,3-Trichloropropane         Not Spiked           Acetonitrile         Not Spiked           Butylbenzene         Not Spiked           Dibromomethane         Not Spiked           Ethyl Acetate         Not Spiked           sec-Butylbenzene         Not Spiked	-	100
Styrene         69 Q           Bromoform         86           Cumene         92           Propylbenzene         98           4-Ethyltoluene         98           1,3,5-Trimethylbenzene         84           1,2,4-Trimethylbenzene         66 Q           1,3-Dichlorobenzene         101           4,4-Dichlorobenzene         99           alpha-Chlorotoluene         110           1,2-Dichlorobenzene         97           1,2,4-Trichlorobenzene         75           Hexachlorobutadiene         80           Naphthalene         98           1,1,1,2-Tetrachloroethane         Not Spiked           1,2,3-Trichloropropane         Not Spiked           Acetonitrile         Not Spiked           Butylbenzene         Not Spiked           Dibromomethane         Not Spiked           Ethyl Acetate         Not Spiked           sec-Butylbenzene         Not Spiked		87
Bromoform       86         Cumene       92         Propylbenzene       98         4-Ethyltoluene       98         4-Ethyltoluene       98         1,3,5-Trimethylbenzene       84         1,2,4-Trimethylbenzene       66 Q         1,3-Dichlorobenzene       101         1,4-Dichlorobenzene       99         alpha-Chlorotoluene       110         1,2-Dichlorobenzene       97         1,2,4-Trichlorobenzene       75         Hexachlorobutadiene       80         Naphthalene       98         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloropropane       Not Spiked         Acetonitrile       Not Spiked         Butylbenzene       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         sec-Butylbenzene       Not Spiked	•	69 Q
Propylbenzene       98         4-Ethyltoluene       98         1,3,5-Trimethylbenzene       84         1,2,4-Trimethylbenzene       66 Q         1,3-Dichlorobenzene       101         1,4-Dichlorobenzene       99         alpha-Chlorotoluene       110         1,2-Dichlorobenzene       97         1,2,4-Trichlorobenzene       75         Hexachlorobutadiene       80         Naphthalene       98         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloropropane       Not Spiked         Acetonitrile       Not Spiked         Butylbenzene       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         sec-Butylbenzene       Not Spiked	Bromoform	86
4-Ethyltoluene 98 1,3,5-Trimethylbenzene 66 Q 1,2,4-Trimethylbenzene 101 1,4-Dichlorobenzene 999 alpha-Chlorotoluene 1110 1,2-Dichlorobenzene 997 1,2,4-Trichlorobenzene 75 Hexachlorobutadiene 80 Naphthalene 80 Naphthalene 98 1,1,1,2-Tetrachloroethane Not Spiked 1,2,3-Trichloropropane Not Spiked 60 Butylbenzene 80 Butylb	Cumene	92
4-Ethyltoluene       98         1,3,5-Trimethylbenzene       84         1,2,4-Trimethylbenzene       66 Q         1,3-Dichlorobenzene       101         1,4-Dichlorobenzene       99         alpha-Chlorotoluene       110         1,2-Dichlorobenzene       97         1,2,4-Trichlorobenzene       75         Hexachlorobutadiene       80         Naphthalene       98         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloropropane       Not Spiked         Acetonitrile       Not Spiked         Butylbenzene       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         sec-Butylbenzene       Not Spiked	Propylbenzene	98
1,3,5-Trimethylbenzene       84         1,2,4-Trimethylbenzene       66 Q         1,3-Dichlorobenzene       101         1,4-Dichlorobenzene       99         alpha-Chlorotoluene       110         1,2-Dichlorobenzene       97         1,2,4-Trichlorobenzene       75         Hexachlorobutadiene       80         Naphthalene       98         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloropropane       Not Spiked         Acetonitrile       Not Spiked         Butylbenzene       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         sec-Butylbenzene       Not Spiked		98
1,2,4-Trimethylbenzene       66 Q         1,3-Dichlorobenzene       101         1,4-Dichlorobenzene       99         alpha-Chlorotoluene       110         1,2-Dichlorobenzene       97         1,2,4-Trichlorobenzene       75         Hexachlorobutadiene       80         Naphthalene       98         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloropropane       Not Spiked         Acetonitrile       Not Spiked         Butylbenzene       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         sec-Butylbenzene       Not Spiked		84
1,3-Dichlorobenzene       101         1,4-Dichlorobenzene       99         alpha-Chlorotoluene       110         1,2-Dichlorobenzene       97         1,2,4-Trichlorobenzene       75         Hexachlorobutadiene       80         Naphthalene       98         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloropropane       Not Spiked         Acetonitrile       Not Spiked         Butylbenzene       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         sec-Butylbenzene       Not Spiked	The state of the s	66 Q
1,4-Dichlorobenzene       99         alpha-Chlorotoluene       110         1,2-Dichlorobenzene       97         1,2,4-Trichlorobenzene       75         Hexachlorobutadiene       80         Naphthalene       98         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloropropane       Not Spiked         Acetonitrile       Not Spiked         Butylbenzene       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         sec-Butylbenzene       Not Spiked	· ·	101
alpha-Chlorotoluene       110         1,2-Dichlorobenzene       97         1,2,4-Trichlorobenzene       75         Hexachlorobutadiene       80         Naphthalene       98         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloropropane       Not Spiked         Acetonitrile       Not Spiked         Butylbenzene       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         sec-Butylbenzene       Not Spiked	·	99
1,2-Dichlorobenzene       97         1,2,4-Trichlorobenzene       75         Hexachlorobutadiene       80         Naphthalene       98         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloropropane       Not Spiked         Acetonitrile       Not Spiked         Butylbenzene       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         sec-Butylbenzene       Not Spiked	•	110
1,2,4-Trichlorobenzene       75         Hexachlorobutadiene       80         Naphthalene       98         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloropropane       Not Spiked         Acetonitrile       Not Spiked         Butylbenzene       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         sec-Butylbenzene       Not Spiked	•	97
Hexachlorobutadiene         80           Naphthalene         98           1,1,1,2-Tetrachloroethane         Not Spiked           1,2,3-Trichloropropane         Not Spiked           Acetonitrile         Not Spiked           Butylbenzene         Not Spiked           Dibromomethane         Not Spiked           Ethyl Acetate         Not Spiked           sec-Butylbenzene         Not Spiked		75
Not Spiked 1,1,1,2-Tetrachloroethane 1,2,3-Trichloropropane Not Spiked Not Spiked Acetonitrile Not Spiked Butylbenzene Dibromomethane Ethyl Acetate sec-Butylbenzene Not Spiked Not Spiked Not Spiked Not Spiked	Hexachlorobutadiene	80
1,1,1,2-TetrachloroethaneNot Spiked1,2,3-TrichloropropaneNot SpikedAcetonitrileNot SpikedButylbenzeneNot SpikedDibromomethaneNot SpikedEthyl AcetateNot Spikedsec-ButylbenzeneNot Spiked	Naphthalene	98
1,2,3-TrichloropropaneNot SpikedAcetonitrileNot SpikedButylbenzeneNot SpikedDibromomethaneNot SpikedEthyl AcetateNot Spikedsec-ButylbenzeneNot Spiked		Not Spiked
Acetonitrile  Butylbenzene  Dibromomethane  Ethyl Acetate  sec-Butylbenzene  Not Spiked  Not Spiked  Not Spiked  Not Spiked		Not Spiked
Dibromomethane  Ethyl Acetate  sec-Butylbenzene  Not Spiked Not Spiked Not Spiked	Acetonitrile	Not Spiked
Ethyl Acetate Not Spiked sec-Butylbenzene Not Spiked	Butylbenzene	Not Spiked
sec-Butylbenzene Not Spiked	Dibromomethane	Not Spiked
sec-Butylbenzene Not Spiked	Ethyl Acetate	Not Spiked
10.1	sec-Butylbenzene	Not Spiked
	Vinyl Acetate	104

## Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

		Method Limits	
Surrogates	%Recovery		
1.2-Dichloroethane-d4	97	70-130	
Toluene-d8	100	70-130	
4-Bromofluorobenzene	97	70-130	

Project Reviews Laborate Analytic Matrix:	Name: Golder Associates  Name: Solution Soil Vapor Sampling F  er: J. White  ory: Air Toxics LTD.  al Method (type and no.): Modified To  Air Soil/Sed. Water Waste  Names SV-5, SV-6	on / South	Proje Valida SDG ST/	ct Number:_ ation Date:_ #:	
NOTE:	Please provide calculation in Comment areas or	on the b	ack (if o	n the back រុ	olease indicate in comment areas).
Field In	formation	YES	NO	NA	COMMENTS
a)	Sampling dates noted?				
b)	Sampling team indicated?				
c)	Sample location noted?				
d)	Sample depth indicated (Soils)?				
e)	Sample type indicated (grab/composite)?				
f)	Field QC noted?				
g)	Field parameters collected (note types)?				and the state of t
h)	Field Calibration within control limits?	19 de la constitución			
i)	Notations of unacceptable field conditions/performa	nces froi	41655		otes?
j)	Does the laboratory narrative indicate deficiencies?  Note Deficiencies:		G G		
Chain-c	of-Custody (COC)	YES	NO	NA	COMMENTS
a)	Was the COC properly completed?	W	П	П	
b)	Was the COC signed by both field				
	and laboratory personnel?				
c)	Were samples received in good condition?				
Genera	I (reference QAPP or Method)	YES	NO	NA	COMMENTS
a)	Were hold times met for sample pretreatment?				HT = 140 from Collection
b)	Were hold times met for sample analysis?				HT=10D from Receipt
c)	Were the correct preservatives used?				
d)	Was the correct method used?				
e)	Were appropriate reporting limits achieved?				
f)	Were any sample dilutions noted?		Ø		
g)	Were any matrix problems noted?				

Blanks		YES	NO	NA		COMMENTS
a)	Were analytes detected in the method blank(s)?		1 Janes			
b)	Were analytes detected in the field blank(s)?					
c)	Were analytes detected in the equipment blank(s)?					
d)	Were analytes detected in the trip blank(s)?					
Labora	tory Control Sample (LCS)	YES	NO	NA		COMMENTS
a)	Was a LCS analyzed once per SDG?	团				
b)	Were the proper compounds included in the LCS?				*****	LA MALE CONTRACTOR OF THE CONT
c)	Was the LCS accuracy criteria met?				4	
Duplica	ates	YES	NO	NA		COMMENTS
a)	Were field duplicates collected (note original and du	ıplicate s	ample na	mes)?		
/						
b)	Were field dup, precision criteria met (note RPD)?					
c)	Were lab duplicates analyzed (note original and dup	olicate sa	mples)?			
-,	, , ,		9			
d)	Were lab dup precision criteria met (note RPD)?					
Blind S	tandards	YES	NO	NA		COMMENTS
a)	Was a blind standard used (indicate name,					
	compounds included and concentrations)?					
b)	Was the %D within control limits?					
Matrix	Spike/Matrix Spike Duplicate (MS/MSD)	YES	NO	NA	COMMENTS	
a)	Was MS accuracy criteria met?			9		
	Recovery could not be calculated since sample contained high concentration of analyte?					
b)	Was MSD accuracy criteria met?					
,	Recovery could not be calculated since sample					
	contained high concentration of analyte?				4.4.444	
c)	Were MS/MSD precision criteria met?					44440
Surrog	ate Spikes	YES	NO	NA		COMMENTS
a)	Were surrogate recoveries within control limits?					
b)	Were surrogate recoveries not calculated due to dilutions?					
Comm	ents/Notes:					

## Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
No Q	ualifiecs			
4				
NAME AND ADDRESS OF THE PARTY O				

Signature: Date:	1/11/07
------------------	---------



#### **WORK ORDER #:** 0612129

Work Order Summary

CLIENT:

Mr. Mark Haddock

Golder Associates, Inc.

820 South Main Street

Suite 100

St Charles, MO 63301

PHONE:

(636)-724-9191

FAX: (636-724-9323

DATE RECEIVED: DATE COMPLETED:

12/06/2006 12/19/2006 BILL TO: Mr. Mark Haddock

Golder Associates, Inc. 820 South Main Street

Suite 100

St. Charles, MO 63301

**P.O.** # 043-9670

PROJECT#

043-9670 Solutia Soil Vapor Sampling

CONTACT:

Event Brandon Dunmore

			RECEIPT
FRACTION #	<u>NAME</u>	TEST	VAC./PRES.
01A	SV-5 Cerro	Modified TO-15 SIM	4.0 "Hg
02A	SV-6 Cerro	Modified TO-15 SIM	2.0 "Hg
03A	Lab Blank	Modified TO-15 SIM	NA
04A	CCV	Modified TO-15 SIM	NA
05A	LCS	Modified TO-15 SIM	NA

CERTIFIED BY:	Janda d. Fruman	DATE:	12/19/06

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004 NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,

Accreditation number: E87680, Effective date: 07/01/06, Expiration date: 06/30/07

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630 (916) 985-1000 (800) 985-5955 . FAX (916) 985-1020



#### LABORATORY NARRATIVE Modified TO-15 SIM Golder Associates, Inc. Workorder# 0612129

Two 6 Liter Summa Special (100% Certified) samples were received on December 06, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition mode. The method involves concentrating up to 0.5 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

Requirement	TO-15	ATL Modifications
ICAL %RSD acceptance criteria	=30% RSD with 2<br compounds allowed out to < 40% RSD	Project specific; default criteria is =30% RSD with 10% of compounds allowed out to < 40% RSD</td
Daily Calibration	+- 30% Difference	Project specific; default criteria is = 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers</td
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

#### **Receiving Notes**

The Chain of Custody (COC) information for samples SV-5 Cerro and SV-6 Cerro did not match the entries on the sample tags with regard to sample identification. The discrepancy was noted in the Sample Receipt Confirmation email/fax and the information on the COC was used to process and report the samples.

#### **Analytical Notes**

There were no analytical discrepancies.

#### **Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

- B Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
  - J Estimated value.
  - E Exceeds instrument calibration range
  - S Saturated peak.
  - Q Exceeds quality control limits.
  - U Compound analyzed for but not detected above the reporting limit.



- UJ- Non-detected compound associated with low bias in the CCV
- N The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

- a-File was requantified
- b-File was quantified by a second column and detector
- r1-File was requantified for the purpose of reissue



# **Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS SIM**

Client Sample ID: SV-5 Cerro

Lab ID#: 0612129-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	(uG/m3)	(uG/m3)
Trichloroethene	0.031	20	0.17	110

Client Sample ID: SV-6 Cerro

Lab ID#: 0612129-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)	
Trichloroethene	0.029	22	0.15	120	



## Client Sample ID: SV-5 Cerro

### Lab ID#: 0612129-01A

File Name: Dil. Factor:	6121507 1.55		Date of Collection: 12/5/06 Date of Analysis: 12/15/06 05:28 F	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.031	20	0.17	110
1,2-Dichloroethane	0.031	Not Detected	0.12	Not Detected
1,2-Dibromoethane (EDB)	0.031	Not Detected	0.24	Not Detected
1,1,2,2-Tetrachloroethane	0.031	Not Detected	0.21	Not Detected
Container Type: 6 Liter Summa	Special (100% Certified)			Method
Surrogates		%Recovery		Limits
1,2-Dichloroethane-d4		104		70-130
Toluene-d8		103		70-130
4-Bromofluorobenzene		111		70-130



## Client Sample ID: SV-6 Cerro

### Lab ID#: 0612129-02A

File Name: Dil. Factor:	6121508 1.44		Date of Collection: Date of Analysis: 1	在特别的高级特别就是 一、包含的最高的是1。
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.029	22	0.15	120
1.2-Dichloroethane	0.029	Not Detected	0.12	Not Detected
1.2-Dibromoethane (EDB)	0 029	Not Detected	0.22	Not Detected
1,1,2,2-Tetrachloroethane	0.029	Not Detected	0 20	Not Detected
Container Type: 6 Liter Summa	Special (100% Certified)			Method
Surrogates		%Recovery		Limits
1,2-Dichloroethane-d4		105		70-130
Toluene-d8		102		70-130
4-Bromofluorobenzene		113		70-130



## Client Sample ID: Lab Blank Lab ID#: 0612129-03A

File Name: Dil. Factor:	6121506 1.00		Date of Collection: I Date of Analysis: 1	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.020	Not Detected	0 11	Not Detected
1,2-Dichloroethane	0.020	Not Detected	0.081	Not Detected
1,2-Dibromoethane (EDB)	0.020	Not Detected	0.15	Not Detected
1,1,2,2-Tetrachloroethane	0.020	Not Detected	0.14	Not Detected
Container Type: NA - Not Applica	ible			
Surrogates		%Recovery		Method Limits
1,2-Dichloroethane-d4		101		70-130
Toluene-d8		103		70-130
4-Bromofluorobenzene		106		70-130



## Client Sample ID: CCV Lab ID#: 0612129-04A

## MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name: 6121502 Date of Collection: NA	
Dil. Factor: 1.00 Date of Analysis: 12/15/06 10:59 A	

Compound	%Recovery
Trichloroethene	111
1,2-Dichloroethane	115
1,2-Dibromoethane (EDB)	121
1,1,2,2-Tetrachloroethane	115

## Container Type: NA - Not Applicable

., регла с тест рригание		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	93	70-130	
Toluene-d8	100	70-130	
4-Bromofluorobenzene	101	70-130	



## Client Sample ID: LCS Lab ID#: 0612129-05A

## MODIFIED EPA METHOD TO-15 GC/MS SIM

e Name:	6121503	Date of Collection	
. Factor:	1.00		12/15/06 11:43 AM

Compound	%Recovery
Trichloroethene	94
1,2-Dichloroethane	100
1,2-Dibromoethane (EDB)	107
1.1.2.2-Tetrachloroethane	105

## Container Type: NA - Not Applicable

Container Type. NA - Not Applicable		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	102	70-130

Project	ny Name: <u>Golder Associates</u> Name: <u>Solvha Soil Vapor Scimpling</u> = er: <u>Jiwhile</u>	rent	Proj	ect Manager: ect Number: _ dation Date:	
Laborat Analytic Matrix:	tory: Air Toxics LTD  cal Method (type and no): TO-/5 Sim  MAir Soil/Sed Water Waste  Names SV-7, Duplicate	_ (m	SDC POLFE	3#: <u>0612</u> d)	
NOTE:	Please provide calculation in Comment areas or	on the l	back (if	on the back բ	please indicate in comment areas).
Field In	nformation	YES	NO	NA	COMMENTS
a)	Sampling dates noted?	4			
b)	Sampling team indicated?				
c)	Sample location noted?				***************************************
d)	Sample depth indicated (Soils)? And				
e)	Sample type indicated (grab/composite)?				
f)	Field QC noted?				B. 4
g)	Field parameters collected (note types)?				PID
h)	Field Calibration within control limits?				
i) j)	Notations of unacceptable field conditions/performations of unacceptable field conditions/performations are conditions of unacceptable field conditions are conditions.			ogs or field no	tes?
Chain-c	of-Custody (COC)	YES	NO	NA	COMMENTS
a)	Was the COC properly completed?				***************************************
b)	Was the COC signed by both field and laboratory personnel?		<b>/</b> []		
c)	Were samples received in good condition?	0			
Genera	I (reference QAPP or Method)	YES	NO	NA	COMMENTS
a) b)	Were hold times met for sample pretreatment? Were hold times met for sample analysis?	7			HT=14 D
c)	Were the correct preservatives used?				NAMES OF THE PROPERTY OF THE P
d)	Was the correct method used?				
e)	Were appropriate reporting limits achieved?				
f)	Were any sample dilutions noted?				
g)	Were any matrix problems noted?			П	

Revised May 2004

Blanks	5	YES	NO	NA	COMMENTS
a)	Were analytes detected in the method blank(s)?				
b)	Were analytes detected in the field blank(s)?				
c)	Were analytes detected in the equipment blank(s)?				
d)	Were analytes detected in the trip blank(s)?				
Labora	atory Control Sample (LCS)	YES	NO	NA	COMMENTS
a)	Was a LCS analyzed once per SDG?				
b)	Were the proper compounds included in the LCS?				
c)	Was the LCS accuracy criteria met?				
Duplic	ates	YES	NO	NA	COMMENTS
a)	Were field duplicates collected (note original and du	plicate s	ample na	ımes)?	
b)	Were field dup precision criteria met (note RPD)?	W.			< 6% RAL
c)	Were lab duplicates analyzed (note original and dup	olicate sa	mples)?		
d)	Were lab dup precision criteria met (note RPD)?				
Blind S	Standards	YES	NO	NA	COMMENTS
a)	Was a blind standard used (indicate name,			9	
•	compounds included and concentrations)?				
b)	Was the %D within control limits?			9	
Matrix	Spike/Matrix Spike Duplicate (MS/MSD)	YES	NO	NA	COMMENTS
a)	Was MS accuracy criteria met?				
	Recovery could not be calculated since sample contained high concentration of analyte?				
b)	Was MSD accuracy criteria met?			Brown Market Brown	
,	Recovery could not be calculated since sample contained high concentration of analyte?		<u>-</u>		
c)	Were MS/MSD precision criteria met?				
Surrog	ate Spikes	YES	NO	NA	COMMENTS
a)	Were surrogate recoveries within control limits?	120	<b>o</b>		
b)	Were surrogate recoveries not calculated due to dilutions?				
Comm	ents/Notes:				
					and the same statement of the same statement

Page 2 of 3

### Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
10 0	valifiers			
	464			
		-		

Signature:	lunt	N		1	
7		,	00 0		

Date: 1/12/07



### **WORK ORDER #: 0612167**

Work Order Summary

CLIENT:

Mr. Mark Haddock

BILL TO: Mr. Mark Haddock

Golder Associates, Inc. 820 South Main Street

Golder Associates, Inc. 820 South Main Street

Suite 100

Suite 100

St. Charles, MO 63301

St. Charles, MO 63301

PHONE:

(636)-724-9191

**P.O.** # 043-9670

FAX:

(636-724-9323

PROJECT#

043-9670 Solutia Soil Vapor Sampling

DATE RECEIVED: DATE COMPLETED: 12/07/2006 12/27/2006

CONTACT:

Event Brandon Dunmore

			RECEIPT
FRACTION #	<u>NAME</u>	<u>TEST</u>	VAC./PRES.
01A	SV-7 Cerro	Modified TO-15 SIM	4.5 "Hg
02A	Duplicate	Modified TO-15 SIM	5.0 "Hg
03A	Lab Blank	Modified TO-15 SIM	NA
04A	CCV	Modified TO-15 SIM	NA
05A	LCS	Modified TO-15 SIM	NA

CERTIFIED BY:

Sinda & Fruman

DATE: 12/27/06

Laboratory Director

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004

NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,

Accreditation number: E87680, Effective date: 07/01/06, Expiration date: 06/30/07

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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#### LABORATORY NARRATIVE Modified TO-15 SIM Golder Associates, Inc. Workorder# 0612167

Two 6 Liter Summa Special (100% Certified) samples were received on December 07, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition mode. The method involves concentrating up to 0.5 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

Requirement	TO-15	ATL Modifications
ICAL %RSD acceptance criteria	=30% RSD with 2<br compounds allowed out to < 40% RSD	Project specific; default criteria is =30% RSD with 10% of compounds allowed out to < 40% RSD</td
Daily Calibration	+- 30% Difference	Project specific; default criteria is = 30% Difference with 10% of compounds allowed out up to </=40%; flag and narrate outliers</td
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

#### **Receiving Notes**

There were no receiving discrepancies.

#### **Analytical Notes**

There were no analytical discrepancies

#### **Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

- B Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
  - J Estimated value
  - E Exceeds instrument calibration range.
  - S Saturated peak
  - Q Exceeds quality control limits.
  - U Compound analyzed for but not detected above the reporting limit.
  - UJ- Non-detected compound associated with low bias in the CCV
  - N The identification is based on presumptive evidence.



File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



# Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS SIM

Client Sample ID: SV-7 Cerro

Lab ID#: 0612167-01A

	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(uG/m3)	(uG/m3)
Trichloroethene	0.032	0.90	0.17	48
1,1,2,2-Tetrachloroethane	0.032	0.036	0.22	0.25

Client Sample ID: Duplicate

Lab ID#: 0612167-02A

	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(uG/m3)	(uG/m3)
Trichloroethene	0.032	0.90	0.17	4.9
1,1,2,2-Tetrachloroethane	0.032	0.034	0.22	0.24



### Client Sample ID: SV-7 Cerro

Lab ID#: 0612167-01A

File Name: Dil. Factor:	6121510 1.58			Date of Collection: 12/6/06 Date of Analysis: 12/15/06 07:54 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)		
Trichloroethene	0.032	0.90	0 17	4.8		
1,2-Dichloroethane	0.032	Not Detected	0.13	Not Detected		
1,2-Dibromoethane (EDB)	0.032	Not Detected	0.24	Not Detected		
1,1,2,2-Tetrachloroethane	0.032	0036	0.22	0 25		
Container Type: 6 Liter Summa	Special (100% Certified)			Method		
Surrogates		%Recovery		Limits		
1,2-Dichloroethane-d4		105		70-130		
Toluene-d8		102		70-130		
4-Bromofluorobenzene		107		70-130		



## Client Sample ID: Duplicate

Lab ID#: 0612167-02A

		and the second s		THE RESIDENCE OF THE PROPERTY OF THE	
File Name: Dil. Factor:	6121512 1.61		Date of Collection: 12/6/06 Date of Analysis: 12/15/06 09:29 PN		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)	
Trichloroethene	0.032	0.90	0.17	4.9	
1,2-Dichloroethane	0.032	Not Detected	0,13	Not Detected	
1,2-Dibromoethane (EDB)	0.032	Not Detected	0.25	Not Detected	
1,1,2,2-Tetrachloroethane	0.032	0.034	0.22	0.24	
Container Type: 6 Liter Summa	Special (100% Certified)			Method	
Surrogates		%Recovery		Limits	
1,2-Dichloroethane-d4		100		70-130	
Toluene-d8		102		70-130	
4-Bromofluorobenzene		101		70-130	



## Client Sample ID: Lab Blank

Lab ID#: 0612167-03A

File Name: Dil. Factor:	6121506 1.00		Date of Collection: I Date of Analysis: 1	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.020	Not Detected	0.11	Not Detected
1,2-Dichloroethane	0.020	Not Detected	0 081	Not Detected
1,2-Dibromoethane (EDB)	0.020	Not Detected	0.15	Not Detected
1,1,2,2-Tetrachloroethane	0.020	Not Detected	014	Not Detected
Container Type: NA - Not Applica	ble			
Surrogates		%Recovery		Method Limits
1,2-Dichloroethane-d4		101		70-130
Toluene-d8		103		70-130
4-Bromofluorobenzene		106		70-130



## Client Sample ID: CCV Lab ID#: 0612167-04A

### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	6121502	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/15/06 10:59 AM

Compound	%Recovery
Trichloroethene	111
1,2-Dichloroethane	115
1,2-Dibromoethane (EDB)	121
1,1,2,2-Tetrachloroethane	115

## Container Type: NA - Not Applicable

		Method		
Surrogates	%Recovery	Limits		
1,2-Dichloroethane-d4	93	70-130		
Toluene-d8	100	70-130		
4-Bromofluorobenzene	101	70-130		



## Client Sample ID: LCS Lab ID#: 0612167-05A

그들은 그리지 않는 경우를 가는 것이 모든 사람들이 하지 않는 것이 되었다. 그 나를	
	그는 사람들은 사람들은 사람들은 사람들은 사람들은 사람들은 사람들은 사람들은
File Name:	6121503 Date of Collection: NA
그는 그들은 그들은 그렇게 보는 것이 되는 것이 없는 것이 없었다.	4.00 P. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4.
Dil. Factor:	1.00 Date of Analysis: 12/15/06 11:43 AM

Compound		%Recovery
Trichloroethene		94
1,2-Dichloroethane		100
1,2-Dibromoethane (EDB)		107
1,1,2,2-Tetrachloroethane		105
Container Type: NA - Not Applicable		
		Method
Surrogates	%Recovery	Limits
	%Recovery 93	70-130
Surrogates  1,2-Dichloroethane-d4  Toluene-d8		

Company Name: Crolder Associates  Project Manager: M. Haddock  Project Name: Solutia Soil Napor Sampling Event  Reviewer: Solutia Soil Napor Sampling Event  Validation Date: 1/12/p #  Laboratory: Air Toxics ITA  Analytical Method (type and no): 70-15 (Moclifical) Full Scan  Matrix: X Air Soil/Sed Water Waste  Sample Names SV-7 Duplicate							
NOTE:	Please provide calculation in Comment areas or	on the t	oack (if o	on the back	please indicate in comment areas).		
Field In	formation	YES	NO	NA	COMMENTS		
a)	Sampling dates noted?				- ALAKAN		
b)	Sampling team indicated?	9			APARATING		
c)	Sample location noted?						
d)	Sample depth indicated (Soils)?						
e)	Sample type indicated (grap/composite)?	Q.					
f)	Field QC noted?						
g)	Field parameters collected (note types)?				Dr. D		
h)	Field Calibration within control limits?	Be The second					
i)	Notations of unacceptable field conditions/performa	nces fro	m field lo	gs or field n	otes?		
j)	Does the laboratory narrative indicate deficiencies?  Note Deficiencies:						
Chain-	of-Custody (COC)	YES	NO	NA	COMMENTS		
a)	Was the COC properly completed?						
b)	Was the COC signed by both field	_/		<del>-</del>			
	and laboratory personnel?						
c)	Were samples received in good condition?						
Genera	I (reference QAPP or Method)	YES	NO	NA	COMMENTS		
a)	Were hold times met for sample pretreatment?						
b)	Were hold times met for sample analysis?						
c)	Were the correct preservatives used?						
d)	Was the correct method used?						
e)	Were appropriate reporting limits achieved?			_			
f)	Were any sample dilutions noted?						
a)	Were any matrix problems noted?		W				

Blanks a) b) c) d)	Were analytes detected in the method blank(s)? Were analytes detected in the field blank(s)? Were analytes detected in the equipment blank(s)? Were analytes detected in the trip blank(s)?	YES	NO	NA O	COMMENTS
Labora	tory Control Sample (LCS)	YES	NO	NA	COMMENTS
a)	Was a LCS analyzed once per SDG?				
b)	Were the proper compounds included in the LCS?				
c)	Was the LCS accuracy criteria met?		No.		Cis-1,3-Dichloroproperse Stycene, 1,2,4-Trimethylkenzene Outside QC Limits
Duplica	ates	YES	NO	NA	COMMENTS
a)	Were field duplicates collected (note original and de	uplicate sa	ample na	mes)?	
b)	Were field dup. precision criteria met (note RPD)?				detected in 5V-7, not but.
c)	Were lab duplicates analyzed (note original and du	plicate sa	ANT.		
					all others 630%
d)	Were lab dup. precision criteria met (note RPD)?				
Blind S	tandards	YES	NO	NA _	COMMENTS
a)	Was a blind standard used (indicate name,				
,	compounds included and concentrations)?				
b)	Was the %D within control limits?				
Matrix	Spike/Matrix Spike Duplicate (MS/MSD)	YES	NO 	NA —	COMMENTS
a)	Was MS accuracy criteria met?			1	
	Recovery could not be calculated since sample contained high concentration of analyte?				
b)	Was MSD accuracy criteria met?				
/	Recovery could not be calculated since sample				
	contained high concentration of analyte?				
c)	Were MS/MSD precision criteria met?				
Surrog	ate Spikes	YES	NO	NA	COMMENTS
a)	Were surrogate recoveries within control limits?	War and the same of the same o			
b)	Were surrogate recoveries not calculated due to dilutions?				
Comm	ents/Notes:				

## Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier		Reason		
SV-7	Freon 11		5	Debection	) ×	EGNIP	Blank
	Ethano1	N-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1			1	y '	
	Acetone						
	Carbon Disulfi de					***************************************	
	2-Butanone						
	Benzene			A A A A A A A A A A A A A A A A A A A			
	Toluene						
	Ethyl Benzene						
	1 -					· · · · · · · · · · · · · · · · · · ·	
	m,p-Xylene 0-Xylene					<u>/</u>	
	1,2,4-trime thy/ fence	K	V		<u> </u>	none and the second	
	,						
						~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	

Signature:	MA	A CONTRACTOR OF THE PROPERTY O	Date: _	1/12/07	
		acceptable of the second			



#### **WORK ORDER #:** 0612167B

Work Order Summary

CLIENT:

Mr. Mark Haddock

Golder Associates, Inc.

820 South Main Street

Suite 100

St. Charles, MO 63301

PHONE: FAX:

(636)-724-9191

(636-724-9323

DATE RECEIVED:

12/07/2006 12/27/2006

DATE COMPLETED:

PROJECT #

043-9670 Solutia Soil Vapor Sampling

CONTACT:

Event Brandon Dunmore

Golder Associates, Inc.

820 South Main Street

St. Charles, MO 63301

BILL TO: Mr. Mark Haddock

Suite 100

**P.O.** # 043-9670

			RECEIPT	
FRACTION #	NAME	<u>TESI</u>	VAC./PRES.	
01A	SV-7 Cerro	Modified TO-15	4.5 "Hg	
02A	Duplicate	Modified TO-15	5.0 "Hg	
03A	Lab Blank	Modified TO-15	NA	
04A	CCV	Modified TO-15	NA	
05A	LCS	Modified TO-15	NA	

CE	RΤ	IF	IED	BY

Sonda & Fruman

12/27/06 DATE:

Laboratory Director

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004 NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act, Accreditation number: E87680, Effective date: 07/01/06, Expiration date: 06/30/07

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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#### LABORATORY NARRATIVE Modified TO-15 Golder Associates, Inc. Workorder# 0612167B

Two 6 Liter Summa Special (100% Certified) samples were received on December 07, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 1.0 liter of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

Requirement	TO-15	ATL Modifications
ICAL %RSD acceptance criteria	+- 30% RSD with 2 compounds allowed out to < 40% RSD	30% RSD with 4 compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	= 30% Difference with four allowed out up to </=40%; flag and narrate outliers</p
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request

### **Receiving Notes**

There were no receiving discrepancies.

#### **Analytical Notes**

The reported CCV for each daily batch may be derived from more than one analytical file due to the client's request for non-standard compounds.

Non-standard compounds may have different acceptance criteria than the standard TO-14A/TO-15 compound list as per contract or verbal agreement.

The reported LCS for each daily batch has been derived from more than one analytical file.

#### **Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).



- J Estimated value.
- E Exceeds instrument calibration range.
- S Saturated peak.
- Q Exceeds quality control limits.
- U Compound analyzed for but not detected above the reporting limit.
- UJ- Non-detected compound associated with low bias in the CCV
- N The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



# Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SV-7 Cerro

Lab ID#: 0612167B-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.16	0 56	0.78	2.8
Chloromethane	0.16	0.18	0 33	0 37
Freon 11	0.16	0 26 <b>J</b>	0 89	15
Éthanol	0.79	175	15	32
Acetone	0.79	12 <b>J</b>	1.9	30
Carbon Disulfide	0 79	1.1	25	36
Hexane	0 16	2.5	0.56	8 9
2-Butanone (Methyl Ethyl Ketone)	0 16	0.81丁	0.46	2.4
Cyclohexane	0 16	1.5	0 54	5.2
Benzene	0.16	0.65 گ	0.50	2.1
Heptane	0.16	1.2	0.65	5 1
Toluene	0.16	1.07	0 60	4.0
Ethyl Benzene	0.16	0 387	0 69	16
m,p-Xylene	0.16	0.51プ	0 69	22
o-Xylene	0.16	0.18 گ	0.69	0.78
1,3,5-Trimethylbenzene	0.16	0.17	0 78	0 83
1,2,4-Trimethylbenzene	0.16	0.263	0.78	1.3
Butylbenzene	0.79	0.99 '	4.3	5.4
Ethyl Acetate	079	10 `	28	37

## **Client Sample ID: Duplicate**

Lab ID#: 0612167B-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.16	0 60	0 80	30
Freon 11	0.16	024 J	0.90	1 3
Ethanol	0.80	1.8 J	15	3.3
Acetone	0.80	12 J	19	29
Hexane	0.16	2.6	0.57	9.1
2-Butanone (Methyl Ethyl Ketone)	0 16	0.74 ブ	0 47	2.2
Cyclohexane	0 16	15	0 55	50
Benzene	0.16	0 54 5	0 51	17
Heptane	0.16	12	0.66	4.8
Toluene	0.16	1.1 5	0.61	4.2
Ethyl Benzene	0 16	0.32 🎵	0.70	1.4
m,p-Xylene	0 16	0.53 J	070	2.3
o-Xylene	0 16	0 15 J J	0 70	0 67 J



### Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

#### **Client Sample ID: Duplicate**

Lab ID#: 0612167B-02A				
1,3,5-Trimethylbenzene	0.16	0 19	0.79	0.94
1,2,4-Trimethylbenzene	0 16	0.22 ナ	0.79	1 1
Butylbenzene	0 80	1.1	4.4	6 2
Ethyl Acetate	0 80	93	2.9	33



#### Client Sample ID: SV-7 Cerro Lab ID#: 0612167B-01A

File Name: Dil. Factor:	g121425 1.58		Date of Collection: Date of Analysis: 1	
	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(uG/m3)	(uG/m3)
Freon 12	0.16	0 56	0.78	28
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0 16	0.18	0 33	0.37
Vinyl Chloride	0.16	Not Detected	0 40	Not Detected
1,3-Butadiene	0.16	Not Detected	0.35	Not Detected
Bromomethane	0.16	Not Detected	0 61	Not Detected
Chloroethane	0.16	Not Detected	0 42	Not Detected
Freon 11	0.16	0 26	0 89	1.5
Ethanol	0.79	1.7	1.5	32
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Acetone	0.79	12	1.9	30
2-Propanol	0.79	Not Detected	19	Not Detected
Carbon Disulfide	0 79	1.1	2.5	3.6
Methylene Chloride	0.32	Not Detected	1.1	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.57	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Hexane	0.16	2.5	0.56	8.9
1.1-Dichloroethane	0.16	Not Detected	0.64	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.16	0.81	0.46	2.4
cis-1,2-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Tetrahydrofuran	0.79	Not Detected	2.3	Not Detected
Chloroform	0.16	Not Detected	0.77	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0 86	Not Detected
Cyclohexane	0.16	1.5	0.54	5.2
Carbon Tetrachloride	0.16	Not Detected	0 99	Not Detected
Benzene	0.16	0.65	0 50	2 1
Heptane	0.16	1.2	0 65	5 1
1,2-Dichloropropane	0.16	Not Detected	0.73	Not Detected
1,4-Dioxane	0.16	Not Detected	0.57	Not Detected
Bromodichloromethane	0.16	Not Detected	1.0	Not Detected
cis-1.3-Dichloropropene	0.16	Not Detected	0 72	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.65	Not Detected
Toluene	0.16	1.0	0 60	4 0
trans-1,3-Dichloropropene	0.16	Not Detected	0.72	Not Detected
1,1,2-Trichloroethane	0 16	Not Detected	0.86	Not Detected
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
2-Hexanone	0 79	Not Detected	3.2	Not Detected
Dibromochloromethane	0 16	Not Detected	1.3	Not Detected



#### Client Sample ID: SV-7 Cerro Lab ID#: 0612167B-01A

File Name: Dil. Factor:	g121425 1.58		Date of Collection: Date of Analysis: 1	THE REPORT OF THE PARTY OF THE PARTY.
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Chlorobenzene	0 16	Not Detected	0 73	Not Detected
Ethyl Benzene	0 16	0.38	0 69	16
m,p-Xylene	0 16	0.51	0 69	22
o-Xylene	0 16	0 18	0 69	0 78
Styrene	0.16	Not Detected	0.67	Not Detected
Bromoform	0.16	Not Detected	1.6	Not Detected
Cumene	0 16	Not Detected	0 78	Not Detected
Propylbenzene	0 16	Not Detected	0 78	Not Detected
4-Ethyltoluene	0 16	Not Detected	0.78	Not Detected
1,3,5-Trimethylbenzene	0.16	0.17	0.78	0.83
1,2,4-Trimethylbenzene	0.16	0.26	0.78	1.3
1,3-Dichlorobenzene	0 16	Not Detected	0.95	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.95	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0 82	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.95	Not Detected
1,2,4-Trichlorobenzene	0.79	Not Detected	5.9	Not Detected
Hexachlorobutadiene	079	Not Detected	8.4	Not Detected
Naphthalene	0.79	Not Detected	4 1	Not Detected
1,1,1,2-Tetrachloroethane	0.79	Not Detected	5.4	Not Detected
1,2,3-Trichloropropane	0.79	Not Detected	4.8	Not Detected
Acetonitrile	0.79	Not Detected	1.3	Not Detected
Butylbenzene	0.79	0 99	4.3	5.4
Dibromomethane	0 79	Not Detected	5.6	Not Detected
Ethyl Acetate	0 79	10	28	37
sec-Butylbenzene	0.79	Not Detected	4.3	Not Detected
Vinyl Acetate	3.2	Not Detected	11	Not Detected
Container Type: 6 Liter Summa	Special (100% Certified)			
• •				Method
Surrogates		%Recovery		Limits
1.2-Dichloroethane-d4		102		70-130
Toluene-d8		94		70-130
		0.5		70 120

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	95	70-130



#### Client Sample ID: Duplicate Lab ID#: 0612167B-02A

File Name: Dil. Factor:	g121426 1.61		Date of Collection: Date of Analysis: 1	요하하는 제 회사가 얼마나 없다면 하다 하네요.
Programme de Programme de Constitución de Constitución de Constitución de Constitución de Constitución de Const	Rpt. Limit	Amount	Rpt Limit	Amount
Compound	(ppbv)	(ppbv)	(uG/m3)	(uG/m3)
Freon 12	0 16	0 60	0.80	30
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0.16	Not Detected	0.33	Not Detected
Vinyl Chloride	0.16	Not Detected	0.41	Not Detected
1,3-Butadiene	0.16	Not Detected	0.36	Not Detected
Bromomethane	0.16	Not Detected	0.62	Not Detected
Chloroethane	0 16	Not Detected	0 42	Not Detected
Freon 11	0 16	0 24	0 90	13
Ethanol	0 80	1.8	1 5	3.3
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0 64	Not Detected
Acetone	0 80	12	19	29
2-Propanol	0 80	Not Detected	20	Not Detected
Carbon Disulfide	0 80	Not Detected	2.5	Not Detected
Methylene Chloride	0.32	Not Detected	1.1	Not Detected
Methyl tert-butyl ether	0 16	Not Detected	0 58	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.64	Not Detected
Hexane	0.16	26	0 57	9 1
1,1-Dichloroethane	0.16	Not Detected	0.65	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.16	0.74	0.47	2.2
cis-1,2-Dichloroethene	0 16	Not Detected	0.64	Not Detected
Tetrahydrofuran	0.80	Not Detected	2.4	Not Detected
Chloroform	0 16	Not Detected	0.79	Not Detected
1,1,1-Trichloroethane	0 16	Not Detected	0.88	Not Detected
Cyclohexane	0.16	1.5	0.55	5.0
Carbon Tetrachloride	0.16	Not Detected	10	Not Detected
Benzene	0.16	0.54	0.51	17
Heptane	0.16	12	0 66	4.8
1,2-Dichloropropane	0 16	Not Detected	0 74	Not Detected
1,4-Dioxane	0 16	Not Detected	0.58	Not Detected
3romodichloromethane	0.16	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.73	Not Detected
1-Methyl-2-pentanone	0 16	Not Detected	0.66	Not Detected
Foluene	0 16	1.1	0 61	42
rans-1,3-Dichloropropene	0.16	Not Detected	0.73	Not Detected
I,1,2-Trichloroethane	0.16	Not Detected	0.88	Not Detected
Tetrachloroethene	0 16	Not Detected	1 1	Not Detected
2-Hexanone	0 80	Not Detected	3 3	Not Detected
Dibromochloromethane	0 16	Not Detected	1 4	Not Detected



#### Client Sample ID: Duplicate Lab ID#: 0612167B-02A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	g121426 1.61	Date of Collection: 12/6/06 Date of Analysis: 12/15/06 02:25 AM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Chlorobenzene	0 16	Not Detected	0 74	Not Detected
Ethyl Benzene	0.16	0.32	0.70	14
m,p-Xylene	0.16	0.53	0.70	23
o-Xylene	0.16	0 15 J	0 70	0.67 J
Styrene	0.16	Not Detected	0.68	Not Detected
Bromoform	0.16	Not Detected	1.7	Not Detected
Cumene	0.16	Not Detected	0 79	Not Detected
Propylbenzene	0.16	Not Detected	0 79	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.79	Not Detected
1,3,5-Trimethylbenzene	0.16	0.19	0.79	0.94
1,2,4-Trimethylbenzene	0 16	0.22	0.79	1.1
1,3-Dichlorobenzene	0 16	Not Detected	0 97	Not Detected
1,4-Dichlorobenzene	0 16	Not Detected	0.97	Not Detected
alpha-Chlorotoluene	0 16	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected
1,2,4-Trichlorobenzene	0.80	Not Detected	60	Not Detected
Hexachlorobutadiene	0.80	Not Detected	86	Not Detected
Naphthalene	0.80	Not Detected	4 2	Not Detected
1,1,1,2-Tetrachloroethane	0.80	Not Detected	5 5	Not Detected
1,2,3-Trichloropropane	0.80	Not Detected	4.8	Not Detected
Acetonitrile	0 80	Not Detected	1 4	Not Detected
Butylbenzene	0 80	1 1	4.4	6.2
Dibromomethane	0.80	Not Detected	5.7	Not Detected
Ethyl Acetate	0.80	9.3	2.9	33
sec-Butylbenzene	0.80	Not Detected	4.4	Not Detected
Vinyl Acetate	32	Not Detected	11	Not Detected
•				

J = Estimated value

Container Type: 6 Liter Summa Special (100% Certified)

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	100	70-130	
Toluene-d8	96	70-130	
4-Bromofluorobenzene	95	70-130	



#### Client Sample ID: Lab Blank Lab ID#: 0612167B-03A

File Name: Dil. Factor:	g121414 1.00	Date of Collection: NA Date of Analysis: 12/14/06 04:12 PN		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0 10	Not Detected	0.49	Not Detected
Freon 114	0 10	Not Detected	0.70	Not Detected
Chloromethane	0.10	Not Detected	0.21	Not Detected
Vinyl Chloride	0 10	Not Detected	0.26	Not Detected
1,3-Butadiene	0.10	Not Detected	0.22	Not Detected
Bromomethane	0.10	Not Detected	0.39	Not Detected
Chloroethane	0.10	Not Detected	0.26	Not Detected
Freon 11	0.10	Not Detected	0.56	Not Detected
Ethanol	0.50	Not Detected	0.94	Not Detected
Freon 113	0.10	Not Detected	0.77	Not Detected
1,1-Dichloroethene	0.10	Not Detected	0 40	Not Detected
Acetone	0 50	Not Detected	12	Not Detected
2-Propanol	0.50	Not Detected	12	Not Detected
Carbon Disulfide	0 50	Not Detected	1.6	Not Detected
Methylene Chloride	0.20	Not Detected	0.69	Not Detected
Methyl tert-butyl ether	0.10	Not Detected	0 36	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0 40	Not Detected
Hexane	0.10	Not Detected	0.35	Not Detected
1,1-Dichloroethane	0.10	Not Detected	0.40	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.10	Not Detected	0.29	Not Detected
cis-1,2-Dichloroethene	0 10	Not Detected	0.40	Not Detected
Tetrahydrofuran	0.50	Not Detected	15	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,1,1-Trichloroethane	0 10	Not Detected	0.54	Not Detected
Cyclohexane	0.10	Not Detected	0.34	Not Detected
Carbon Tetrachloride	0.10	Not Detected	0 63	Not Detected
Benzene	0 10	Not Detected	0 32	Not Detected
Heptane	0.10	Not Detected	0 41	Not Detected
1,2-Dichloropropane	0 10	Not Detected	0 46	Not Detected
1,4-Dioxane	0.10	Not Detected	0.36	Not Detected
Bromodichloromethane	0 10	Not Detected	0 67	Not Detected
cis-1,3-Dichloropropene	0.10	Not Detected	0 45	Not Detected
4-Methyl-2-pentanone	0.10	Not Detected	0.41	Not Detected
Toluene	0.10	Not Detected	0 38	Not Detected
trans-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
1,1,2-Trichloroethane	0.10	Not Detected	0 54	Not Detected
Tetrachloroethene	0 10	Not Detected	0.68	Not Detected
2-Hexanone	0 50	Not Detected	20	Not Detected
Dibromochloromethane	0.10	Not Detected	0.85	Not Detected



#### Client Sample ID: Lab Blank Lab ID#: 0612167B-03A

File Name: Dil. Factor:	g121414 1.00	Date of Collection: NA Date of Analysis: 12/14/06 04:12 PI		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Chlorobenzene	0 10	Not Detected	0.46	Not Detected
Ethyl Benzene	0 10	Not Detected	0.43	Not Detected
m,p-Xylene	0 10	Not Detected	0.43	Not Detected
o-Xylene	0.10	Not Detected	0.43	Not Detected
Styrene	0.10	Not Detected	0.42	Not Detected
Bromoform	0 10	Not Detected	10	Not Detected
Cumene	0.10	Not Detected	0.49	Not Detected
Propylbenzene	0.10	Not Detected	0.49	Not Detected
4-Ethyltoluene	010	Not Detected	0 49	Not Detected
1,3,5-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,2,4-Trimethylbenzene	0.10	Not Detected	0 49	Not Detected
1,3-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,4-Dichlorobenzene	0 10	Not Detected	0.60	Not Detected
alpha-Chlorotoluene	0 10	Not Detected	0.52	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2,4-Trichlorobenzene	0.50	Not Detected	3 7	Not Detected
Hexachlorobutadiene	0.50	Not Detected	53	Not Detected
Naphthalene	0.50	Not Detected	26	Not Detected
1,1,1,2-Tetrachloroethane	0.50	Not Detected	3 4	Not Detected
1,2,3-Trichloropropane	0.50	Not Detected	3.0	Not Detected
Acetonitrile	0.50	Not Detected	0 84	Not Detected
Butylbenzene	0.50	Not Detected	2.7	Not Detected
Dibromomethane	0.50	Not Detected	3.6	Not Detected
Ethyl Acetate	0.50	Not Detected	18	Not Detected
sec-Butylbenzene	0.50	Not Detected	2.7	Not Detected
Vinyl Acetate	20	Not Detected	7.0	Not Detected
Container Type: NA - Not Applicable				•• ••
_		0/ 🗖		Method
Surrogates		%Recovery		Limits
1,2-Dichloroethane-d4		103		70-130
Toluene-d8		91		70-130
4-Bromofluorobenzene		96		70-130



#### Client Sample ID: CCV Lab ID#: 0612167B-04A

File Name:	a121402 Date of Collection: NA
Dil. Factor:	1.00 Date of Analysis: 12/14/06 08:15 AM

Compound	%Recovery
Freon 12	112
Freon 114	109
Chloromethane	130
Vinyl Chloride	107
1,3-Butadiene	102
Bromomethane	97
Chloroethane	105
Freon 11	100
Ethanol	93
Freon 113	102
1,1-Dichloroethene	105
Acetone	105
2-Propanol	87
Carbon Disulfide	111
Methylene Chloride	103
Methyl tert-butyl ether	85
trans-1,2-Dichloroethene	97
Hexane	94
1,1-Dichloroethane	103
2-Butanone (Methyl Ethyl Ketone)	104
cis-1,2-Dichloroethene	96
Tetrahydrofuran	100
Chloroform	102
1,1,1-Trichloroethane	100
Cyclohexane	100
Carbon Tetrachloride	100
Benzene	98
Heptane	103
1,2-Dichloropropane	106
1,4-Dioxane	90
Bromodichloromethane	95
cis-1,3-Dichloropropene	91
4-Methyl-2-pentanone	96
Toluene	96
trans-1,3-Dichloropropene	104
1,1,2-Trichloroethane	108
Tetrachloroethene	99
2-Hexanone	89
Dibromochloromethane	100



#### Client Sample ID: CCV Lab ID#: 0612167B-04A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

	일하는 이 문화 생활을 다양하는 것이 되었습니다. 그는 사람은 사람들이 모든 모든 사람들이 없는 것이 없다는 생각을 하는 것이 없다는 사람들이 되었습니다.
그를 가장하다면 가는 사람들은 사람들이 가장 되었다. 그 사람들은 사람들은 사람들은 사람들은 사람들은 사람들이 가장하다면 하다면 사람들이 되었다.	그들이 보고 있는데 그리고 있는데 하다 가는 하나 하나 하나 하나 하나 하나 하는데
그리고 그 보면 그리고 있는데 그 그는 이번 하면 하면 하는데 그는데 그는데 그는데 그는데 가고 있다. 아이를 하는데 아이를 하는데	게하다 한 경우를 가는 경우 경우, 가는 경우를 가지하다는 것을 가지 않아 보고 있습니다. 그는 것은 가는 가는 가는 것을 가지 않는 것을 가지 않는다. 그는 것은 것을 가지 않는다는 것을 하고 있다.
	en en antigen de la companya de la c
File Name: q121402	Date of Collection: NA
그렇지도 그 없는 그리고 있었다. 하는 사람들은 사람들은 사람들이 되었다. 그는 그는 사람들은 사람들이 살아가는 그는 것이다. 그는 사람들은 사람들은 사람들이 없는 것이다.	
Dil. Factor: 1 00	Date of Analysis: 12/14/06 08:15 AM

Compound	%Recovery
Chlorobenzene	103
Ethyl Benzene	102
m,p-Xylene	98
o-Xylene	92
Styrene	100
Bromoform	101
Cumene	90
Propylbenzene	94
4-Ethyltoluene	91
1,3,5-Trimethylbenzene	89
1,2,4-Trimethylbenzene	88
1,3-Dichlorobenzene	86
1,4-Dichlorobenzene	84
alpha-Chlorotoluene	93
1,2-Dichlorobenzene	81
1,2,4-Trichlorobenzene	74
Hexachlorobutadiene	78
Naphthalene	107
1,1,1,2-Tetrachloroethane	125
1,2,3-Trichloropropane	96
Acetonitrile	98
Butylbenzene	100
Dibromomethane	88
Ethyl Acetate	94
sec-Butylbenzene	102
Vinyl Acetate	98

#### Container Type: NA - Not Applicable

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	98	70-130



#### Client Sample ID: LCS Lab ID#: 0612167B-05A

File Name:	a121404	Date of Collection: NA
		Date of Analysis: 12/14/06 09:14 AM
Dil. Factor:	.1.00	

Compound	%Recovery
Freon 12	110
Freon 114	105
Chloromethane	122
Vinyl Chloride	100
1,3-Butadiene	103
Bromomethane	96
Chloroethane	103
Freon 11	102
Ethanol	106
Freon 113	101
1,1-Dichloroethene	105
Acetone	106
2-Propanol	94
Carbon Disulfide	117
Methylene Chloride	108
Methyl tert-butyl ether	88
trans-1,2-Dichloroethene	100
Hexane	96
1,1-Dichloroethane	105
2-Butanone (Methyl Ethyl Ketone)	110
cis-1,2-Dichloroethene	100
Tetrahydrofuran	102
Chloroform	101
1,1,1-Trichloroethane	102
Cyclohexane	102
Carbon Tetrachloride	99
Benzene	100
Heptane	102
1,2-Dichloropropane	107
1,4-Dioxane	93
Bromodichloromethane	92
cis-1,3-Dichloropropene	59 <b>Q</b>
4-Methyl-2-pentanone	97
Toluene	98
trans-1,3-Dichloropropene	115
1,1,2-Trichloroethane	112
Tetrachloroethene	106
2-Hexanone	91
Dibromochloromethane	99



#### Client Sample ID: LCS Lab ID#: 0612167B-05A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: g121404 Date of Collection: NA Dil. Factor: 1.00 Date of Analysis: 12/14/06 09:14 AM	File Name:	a 131404

Ethyl Benzene         119           m,p-Xylene         100           b-Xylene         87           Styrene         69 Q           Bromoform         86           Cumene         92           Propylbenzene         98           4-Ethyltoluene         98           1,3-5-Trimethylbenzene         84           1,2,4-Trimethylbenzene         66 Q           1,3-Dichlorobenzene         101           1,4-Dichlorobenzene         110           1,2-Dichlorobenzene         97           1,2,4-Trichlorobenzene         75           Hexachlorobutadiene         80           Naphthalene         98           1,1,1,2-Tetrachloroethane         Not Spiked           Acetonitrile         Not Spiked           Sutylbenzene         Not Spiked           Dibromomethane         Not Spiked           Ethyl Acetate         Not Spiked           Stec-Butyl benzene         Not Spiked           Stered         Not Spi	Compound	%Recovery
m.pXylene         100           b-Xylene         87           Styrene         69 Q           Bromoform         86           Cumene         92           Propylbenzene         98           4-Ethyltoluene         98           1,3,5-Trimethylbenzene         84           1,2,4-Trimethylbenzene         66 Q           1,3-Dichlorobenzene         101           1,4-Dichlorobenzene         99           alpha-Chlorotoluene         110           1,2-Dichlorobenzene         75           dexachlorobutadiene         80           vaphthalene         98           1,1,1,2-Tetrachloroethane         Not Spiked           1,2,3-Trichloropopane         Not Spiked           1,2,3-Trichloropopane         Not Spiked           1,2,3-Trichloropomenthane         Not Spik	Chlorobenzene	109
5ctyrene         69 Q           Bromoform         86           Cumene         92           Propylbenzene         98           4-Ethyltoluene         98           1,3,5-Trimethylbenzene         84           1,2,4-Trimethylbenzene         66 Q           1,3-Dichlorobenzene         101           1,4-Dichlorobenzene         99           alpha-Chlorotoluene         110           1,2-Dichlorobenzene         97           1,2,4-Trichlorobenzene         75           Hexachlorobutadiene         80           Naphthalene         98           1,1,1,2-Tetrachloroethane         Not Spiked           Acetonitrile         Not Spiked           Butylbenzene         Not Spiked           Dibromomethane         Not Spiked           Ethyl Acetate         Not Spiked           Ethyl Acetate         Not Spiked           Etcyl Acetate         Not Spiked	Ethyl Benzene	119
Styrene         69 Q           Bromoform         86           Cumene         92           Propylbenzene         98           4-Ethyltoluene         98           1,3,5-Trimethylbenzene         84           1,2,4-Trimethylbenzene         66 Q           1,3-Dichlorobenzene         101           1,4-Dichlorobenzene         99           alpha-Chlorotoluene         110           1,2-Dichlorobenzene         97           1,2,4-Trichlorobenzene         75           1exachlorobutadiene         80           Naphthalene         98           1,1,1,2-Tetrachloroethane         Not Spiked           1,2,3-Trichloropropane         Not Spiked           Acetonitrile         Not Spiked           Bibromomethane         Not Spiked           Dibromomethane         Not Spiked           Ethyl Acetate         Not Spiked           Etchyl Locatete         Not Spiked           Etchyl Locatete         Not Spiked	m,p-Xylene	100
Bromoform       86         Cumene       92         Propylbenzene       98         4-Ethyltoluene       98         1,3,5-Trimethylbenzene       84         1,2,4-Trimethylbenzene       66 Q         1,3-Dichlorobenzene       101         1,4-Dichlorobenzene       99         alpha-Chlorotoluene       110         1,2-Dichlorobenzene       97         1,2,4-Trichlorobenzene       75         Hexachlorobutadiene       80         Naphthalene       98         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloropropane       Not Spiked         Accetonitrile       Not Spiked         Butylbenzene       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         Ethyl Acetate       Not Spiked         Butylbenzene       Not Spiked	o-Xylene	87
Cumene       92         Propylbenzene       98         4-Ethyltoluene       98         1,3,5-Trimethylbenzene       84         1,2,4-Trimethylbenzene       66 Q         1,3-Dichlorobenzene       101         1,4-Dichlorobenzene       99         alpha-Chlorotoluene       110         1,2-Dichlorobenzene       97         1,2,4-Trichlorobenzene       75         Hexachlorobutadiene       80         Naphthalene       98         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloropropane       Not Spiked         Acetonitrile       Not Spiked         Butylbenzene       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         Ethyl Acetate       Not Spiked	Styrene	69 Q
Propylbenzene         98           4-Ethyltoluene         98           1,3,5-Trimethylbenzene         84           1,2,4-Trimethylbenzene         66 Q           1,3-Dichlorobenzene         101           1,4-Dichlorobenzene         99           alpha-Chlorotoluene         110           1,2-Dichlorobenzene         97           1,2,4-Trichlorobenzene         75           dexachlorobutadiene         80           Naphthalene         98           1,1,1,2-Tetrachloroethane         Not Spiked           Acetonitrile         Not Spiked           Sutylbenzene         Not Spiked           Dibromomethane         Not Spiked           Ethyl Acetate         Not Spiked           tec-Butylbenzene         Not Spiked	Bromoform	86
4-Ethyltoluene       98         1,3,5-Trimethylbenzene       84         1,2,4-Trimethylbenzene       66 Q         1,3-Dichlorobenzene       101         1,4-Dichlorobenzene       99         alpha-Chlorotoluene       110         1,2-Dichlorobenzene       97         1,2,4-Trichlorobenzene       75         dexachlorobutadiene       80         Naphthalene       98         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloropropane       Not Spiked         Nectonitrile       Not Spiked         3utylbenzene       Not Spiked         5thyl Acetate       Not Spiked         5thyl Acetate       Not Spiked         6cc-Butylbenzene       Not Spiked	Cumene	92
1,3,5-Trimethylbenzene       84         1,2,4-Trimethylbenzene       66 Q         1,3-Dichlorobenzene       101         1,4-Dichlorobenzene       99         alpha-Chlorotoluene       110         1,2-Dichlorobenzene       97         1,2,4-Trichlorobenzene       75         Hexachlorobutadiene       80         Naphthalene       98         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloropropane       Not Spiked         Acetonitrile       Not Spiked         Dibromomethane       Not Spiked         Cibyl Acetate       Not Spiked         Ethyl Acetate       Not Spiked         Bottyl Benzene       Not Spiked         Spiked Bec-Butylbenzene       Not Spiked	Propylbenzene	98
1,2,4-Trimethylbenzene       66 Q         1,3-Dichlorobenzene       101         1,4-Dichlorobenzene       99         alpha-Chlorotoluene       110         1,2-Dichlorobenzene       97         1,2,4-Trichlorobenzene       75         Hexachlorobutadiene       80         Naphthalene       98         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloropropane       Not Spiked         Acetonitrile       Not Spiked         Butylbenzene       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         Bec-Butylbenzene       Not Spiked         Not Spiked       Not Spiked	4-Ethyltoluene	98
1,3-Dichlorobenzene       101         1,4-Dichlorobenzene       99         alpha-Chlorotoluene       110         1,2-Dichlorobenzene       97         1,2,4-Trichlorobenzene       75         Hexachlorobutadiene       80         Naphthalene       98         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloropropane       Not Spiked         Acetonitrile       Not Spiked         Butylbenzene       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         Bec-Butylbenzene       Not Spiked         Not Spiked       Not Spiked	1,3,5-Trimethylbenzene	84
1,4-Dichlorobenzene       99         alpha-Chlorotoluene       110         1,2-Dichlorobenzene       97         1,2,4-Trichlorobenzene       75         Hexachlorobutadiene       80         Naphthalene       98         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloropropane       Not Spiked         Acetonitrile       Not Spiked         Butylbenzene       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         sec-Butylbenzene       Not Spiked	1,2,4-Trimethylbenzene	66 Q
alpha-Chlorotoluene       110         1,2-Dichlorobenzene       97         1,2,4-Trichlorobenzene       75         Hexachlorobutadiene       80         Naphthalene       98         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloropropane       Not Spiked         Acetonitrile       Not Spiked         Butylbenzene       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         sec-Butylbenzene       Not Spiked	1,3-Dichlorobenzene	101
1,2-Dichlorobenzene       97         1,2,4-Trichlorobenzene       75         Hexachlorobutadiene       80         Naphthalene       98         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloropropane       Not Spiked         Acetonitrile       Not Spiked         Butylbenzene       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         sec-Butylbenzene       Not Spiked	1,4-Dichlorobenzene	99
1,2,4-Trichlorobenzene       75         Hexachlorobutadiene       80         Naphthalene       98         1,1,1,2-Tetrachloroethane       Not Spiked         1,2,3-Trichloropropane       Not Spiked         Acetonitrile       Not Spiked         Butylbenzene       Not Spiked         Dibromomethane       Not Spiked         Ethyl Acetate       Not Spiked         sec-Butylbenzene       Not Spiked	alpha-Chlorotoluene	110
Hexachlorobutadiene         80           Naphthalene         98           I,1,1,2-Tetrachloroethane         Not Spiked           I,2,3-Trichloropropane         Not Spiked           Acetonitrile         Not Spiked           Butylbenzene         Not Spiked           Dibromomethane         Not Spiked           Ethyl Acetate         Not Spiked           Bec-Butylbenzene         Not Spiked	1,2-Dichlorobenzene	97
Naphthalene         98           I,1,1,2-Tetrachloroethane         Not Spiked           I,2,3-Trichloropropane         Not Spiked           Acetonitrile         Not Spiked           Butylbenzene         Not Spiked           Dibromomethane         Not Spiked           Ethyl Acetate         Not Spiked           sec-Butylbenzene         Not Spiked	1,2,4-Trichlorobenzene	75
Not Spiked 1,2,3-Trichloropropane Not Spiked Acetonitrile Sutylbenzene Dibromomethane Sthyl Acetate Sec-Butylbenzene Not Spiked	Hexachlorobutadiene	80
Not Spiked Acetonitrile Not Spiked Butylbenzene Dibromomethane Ethyl Acetate Diec-Butylbenzene Not Spiked Not Spiked Not Spiked Not Spiked Not Spiked	Naphthalene	98
Acetonitrile Not Spiked Butylbenzene Not Spiked Dibromomethane Not Spiked Ethyl Acetate Not Spiked sec-Butylbenzene Not Spiked	1,1,1,2-Tetrachloroethane	Not Spiked
Butylbenzene Not Spiked Dibromomethane Not Spiked Ethyl Acetate Not Spiked sec-Butylbenzene Not Spiked	1,2,3-Trichloropropane	Not Spiked
Dibromomethane Not Spiked Ethyl Acetate Not Spiked sec-Butylbenzene Not Spiked	Acetonitrile	Not Spiked
Ethyl Acetate Not Spiked sec-Butylbenzene Not Spiked	Butylbenzene	Not Spiked
ec-Butylbenzene Not Spiked	Dibromomethane	Not Spiked
	Ethyl Acetate	Not Spiked
/inyl Acetate 104	sec-Butylbenzene	Not Spiked
	Vinyl Acetate	104

### Q = Exceeds Quality Control limits. Container Type: NA - Not Applicable

7.		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	97	70-130

					043-9670 1/12/07 2239
NOTE:	Please provide calculation in Comment areas or	on the b	ack (if o	n the back	please indicate in comment areas).
Field In	formation	YES	NO	NA	COMMENTS
a)	Sampling dates noted?	Y			
b)	Sampling team indicated?				
c)	Sample location noted?				
d)	Sample depth indicated (Soits)?	No.			
e)	Sample type indicated (grab/composite)?	in			
f)	Field QC noted?				
g)	Field parameters collected (note types)?				PIL
h)	Field Calibration within control limits?	<b>V</b>			
j)	Does the laboratory narrative indicate deficiencies?  Note Deficiencies:				
Chain-	of-Custody (COC)	YES	NO	NA	COMMENTS
a)	Was the COC properly completed?	V			
b)	Was the COC signed by both field and laboratory personnel?	9			
c)	Were samples received in good condition?				
Genera	d (reference QAPP or Method)	YES	NO	NA	COMMENTS
a)	Were hold times met for sample pretreatment?				
b)	Were hold times met for sample analysis?	U			
c)	Were the correct preservatives used?			9	
d)	Was the correct method used?				
e)	Were appropriate reporting limits achieved?				
f)	Were any sample dilutions noted?	<b>&gt;</b> 2			51-8 diluted due to presence
g)	Were any matrix problems noted?				of high-level non-target species

Blanks		YES	NO	NA		COMMENTS
a)	Were analytes detected in the method blank(s)?		Y			
b)	Were analytes detected in the field blank(s)?					
c)	Were analytes detected in the equipment blank(s)?		O C			
d)	Were analytes detected in the trip blank(s)?			V		
Labora	tory Control Sample (LCS)	YES /	NO	NA		COMMENTS
a)	Was a LCS analyzed once per SDG?	Ø,				
b)	Were the proper compounds included in the LCS?				****	
c)	Was the LCS accuracy criteria met?					
Duplica	ates	YES	NO	NA		COMMENTS
a)	Were field duplicates collected (note original and du	uplicate s	ample na	mes)?	Nguya	
•					44.75	
b)	Were field dup precision criteria met (note RPD)?			<b>U</b>		
c)	Were lab duplicates analyzed (note original and dup	olicate sa	mples)?			
					1-3M	
d)	Were lab dup, precision criteria met (note RPD)?			9		
Blind 9	Standards	YES	NO	NA		COMMENTS
a)	Was a blind standard used (indicate name,		П	IV.		• • • • • • • • • • • • • • • • • • • •
aj	compounds included and concentrations)?	<b></b>			**************************************	
b)	Was the %D within control limits?			[]		
5)	Was the 765 Within Schiller mine.	busined		عد		
Matrix	Spike/Matrix Spike Duplicate (MS/MSD)	YES	NO	NA	COMMENTS	
a)	Was MS accuracy criteria met?					A STATE OF THE STA
	Recovery could not be calculated since sample contained high concentration of analyte?			(Farmer)		
b)	Was MSD accuracy criteria met?					
	Recovery could not be calculated since sample contained high concentration of analyte?				***	
c)	Were MS/MSD precision criteria met?			Sandara		
Surron	rate Spikes	YES	NO	NA		COMMENTS
-	Were surrogate recoveries within control limits?	is a second				
b)	Were surrogate recoveries not calculated due to					
~,	dilutions?					
Comm	ents/Notes:					

#### Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
No Q	nalifiers			
and the second s				
The state of the s				
			1	

Signature:	Date:	1/12/07	



#### 0612239 WORK ORDER #:

Work Order Summary

CLIENT:

Mr. Mark Haddock

BILL TO: Mr. Mark Haddock

Golder Associates, Inc.

Golder Associates, Inc. 820 South Main Street

820 South Main Street

St. Charles, MO 63301

Suite 100

St. Charles, MO 63301

PHONE:

(636)-724-9191

Suite 100

P.O. # 043-9670

FAX:

04A

05A

06A

(636-724-9323

PROJECT#

043-9670 Solutia Soil Vapor Sampling

RECEIPT

DATE RECEIVED: DATE COMPLETED: 12/12/2006 12/29/2006

CONTACT:

Event Brandon Dunmore

FRACTION #	NAME
01A	SV-8 Village Hall
02A	SV-9 Village Hall
03A	SV-10 Village Hall

Lab Blank

CCV

LCS

	INDCIDE I
TEST	VAC./PRES.
Modified TO-15 SIM	3.0 "Hg
Modified TO-15 SIM	2.5 "Hg
Modified TO-15 SIM	2.5 "Hg
Modified TO-15 SIM	NA
Modified TO-15 SIM	NA
Modified TO-15 SIM	NA

CERTIFIED BY:

Lxnda) A. Fruman

12/29/06 DATE:

Laboratory Director

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP - AI 30763, NJ NELAP - CA004

NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,

Accreditation number: E87680, Effective date: 07/01/06, Expiration date: 06/30/07

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630 (916) 985-1000 (800) 985-5955 , FAX (916) 985-1020



#### LABORATORY NARRATIVE Modified TO-15 SIM Golder Associates, Inc. Workorder# 0612239

Three 6 Liter Summa Special (100% Certified) samples were received on December 12, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition mode. The method involves concentrating up to 0.5 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

Requirement	TO-15	ATL Modifications
ICAL %RSD acceptance criteria	=30% RSD with 2<br compounds allowed out to < 40% RSD	Project specific; default criteria is =30% RSD with 10% of compounds allowed out to < 40% RSD</td
Daily Calibration	+- 30% Difference	Project specific; default criteria is = 30% Difference with 10% of compounds allowed out up to </=40%; flag and narrate outliers</td
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

#### **Receiving Notes**

There were no receiving discrepancies.

#### **Analytical Notes**

Dilution was performed on sample SV-8 Village Hall due to the presence of high level non-target species

#### **Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

- B Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
  - J Estimated value.
  - E Exceeds instrument calibration range
  - S Saturated peak
  - O Exceeds quality control limits.
  - U Compound analyzed for but not detected above the reporting limit.
  - UJ- Non-detected compound associated with low bias in the CCV
  - N The identification is based on presumptive evidence.



File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



# **Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS SIM**

Client Sample ID: SV-8 Village Hall

Lab ID#: 0612239-01A

No Detections Were Found.

Client Sample ID: SV-9 Village Hall

Lab ID#: 0612239-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)	
Trichloroethene	0.029	2.5	0.16	13	

Client Sample ID: SV-10 Village Hall

Lab ID#: 0612239-03A

Compound	Rpt. Limit	Amount	Rpt. Limit	Amount
	(ppbv)	(ppbv)	(uG/m3)	(uG/m3)
Trichloroethene	0.029	3.7	0.16	20



#### Client Sample ID: SV-8 Village Hall

#### Lab ID#: 0612239-01A

File Name: Dil, Factor:	6122013 93.1			Date of Collection: 12/9/06 Date of Analysis: 12/20/06 04:58 PM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)	
Trichloroethene	1 9	Not Detected	10	Not Detected	
1,2-Dichloroethane	1.9	Not Detected	75	Not Detected	
1,2-Dibromoethane (EDB)	1.9	Not Detected	14	Not Detected	
1,1,2,2-Tetrachloroethane	19	Not Detected	13	Not Detected	
Container Type: 6 Liter Summa Surrogates	Special (100% Certified)	%Recovery		Method Limits	
1,2-Dichloroethane-d4		102		70-130	
Toluene-d8		101		70-130	
4-Bromofluorobenzene		99		70-130	



#### Client Sample ID: SV-9 Village Hall

Lab ID#: 0612239-02A

File Name: Dil. Factor:	6122014 1.46		Date of Collection: Date of Analysis: 1	e COPPLOTE E POUL SOME E POUR PARE
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.029	2.5	0.16	13
1.2-Dichloroethane	0.029	Not Detected	0.12	Not Detected
1.2-Dibromoethane (EDB)	0.029	Not Detected	0.22	Not Detected
1,1,2,2-Tetrachloroethane	0.029	Not Detected	0.20	Not Detected
Container Type: 6 Liter Summa	Special (100% Certified)			Method
Surrogates		%Recovery		Limits
1,2-Dichloroethane-d4		96		70-130
Toluene-d8		101		70-130
4-Bromofluorobenzene		102		70-130



#### Client Sample ID: SV-10 Village Hall

Lab ID#: 0612239-03A

File Name: Dil. Factor:	6122015 1.46			Date of Collection: 12/9/06 Date of Analysis: 12/20/06 06:19 PM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)	
Trichloroethene	0.029	3.7	0.16	20	
1.2-Dichloroethane	0.029	Not Detected	0.12	Not Detected	
1.2-Dibromoethane (EDB)	0.029	Not Detected	0.22	Not Detected	
1,1,2,2-Tetrachloroethane	0.029	Not Detected	0 20	Not Detected	
Container Type: 6 Liter Summa	Special (100% Certified)			Method	
Surrogates		%Recovery		Limits	
1,2-Dichloroethane-d4		97		70-130	
Toluene-d8		100		70-130	
4-Bromofluorobenzene		100		70-130	



#### Client Sample ID: Lab Blank

Lab ID#: 0612239-04A

File Name: Dil. Factor:	6122006 1.00		Date of Collection: I Date of Analysis: 1	(원래 회사) 이 시간 중에 얼마나 아니다 되었다.
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0 020	Not Detected	0.11	Not Detected
1.2-Dichloroethane	0.020	Not Detected	0.081	Not Detected
1,2-Dibromoethane (EDB)	0.020	Not Detected	0.15	Not Detected
1,1,2,2-Tetrachloroethane	0.020	Not Detected	0.14	Not Detected
Container Type: NA - Not Applica	ble			
Surrogates		%Recovery		Method Limits
1,2-Dichloroethane-d4		100		70-130
Toluene-d8		100		70-130
4-Bromofluorobenzene		112		70-130



Dil. Factor:

Toluene-d8

4-Bromofluorobenzene

AN ENVIRONMENTAL ANALYTICAL LABORATORY

#### Client Sample ID: CCV

#### Lab ID#: 0612239-05A

Date of Analysis: 12/20/06 08:43 AM

70-130

70-130

# MODIFIED EPA METHOD TO-15 GC/MS SIM File Name: 6122003 Date of Collection: NA

1.00

Compound		%Recovery
Trichloroethene		86
1,2-Dichloroethane		84
1,2-Dibromoethane (EDB)		90
1,1,2,2-Tetrachloroethane		74
Container Type: NA - Not Applicable		
••		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	90	70-130

97

96



#### Client Sample ID: LCS Lab ID#: 0612239-06A

#### MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	6122004	of Collection: NA
		of Analysis: 12/20/06 09:26 AM
Dil. Factor:	1.00	

Compound	%Recovery
Trichloroethene	90
1,2-Dichloroethane	93
1,2-Dibromoethane (EDB)	100
1.1.2.2-Tetrachloroethane	98

#### Container Type: NA - Not Applicable

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	94	70-130	
Toluene-d8	98	70-130	
4-Bromofluorobenzene	103	70-130	

Company Name: Golder Associates  Project Name: Solving Soil Vapor Sampling Event  Reviewer: Julyite				Project Manager: White And Action Project Number: 043-9670  Validation Date: 1/12/97				
Analytic Matrix:	tory: Air Toxies LTD, cal Method (type and no.): TO -15 Mod Air Soil/Sed Water Waste Names SU-8, SU-9, SU-1	Ged)	FUL	1 Scar	12739 &			
NOTE:	Please provide calculation in Comment areas of	or on the l	back (if	on the bac				
Field Ir	nformation	YES	NO	NA	COMMENTS			
a)	Sampling dates noted?							
b)	Sampling team indicated?							
c)	Sample location noted?	9	. 🗆					
d)	Sample depth indicated (Soits)? At C							
e)	Sample type indicated (grab(composite)?							
f)	Field QC noted?				474			
g)	Field parameters collected (note types)?				y ale let			
h)	Field Calibration within control limits?							
i)	Notations of unacceptable field conditions/perform	nances fro	m field l	ogs or field	notes?			
j)	Does the laboratory narrative indicate deficiencies  Note Deficiencies:							
Chain-	of-Custody (COC)	YES	NO	NA	COMMENTS			
a)	Was the COC properly completed?							
b)	Was the COC signed by both field and laboratory personnel?							
c)	Were samples received in good condition?	- Comment						
Genera	al (reference QAPP or Method)	YES	NO	NA	COMMENTS			
a)	Were hold times met for sample pretreatment?	Ø,			H7-60 141 D			
b)	Were hold times met for sample analysis?				HT = 10 D			
c)	Were the correct preservatives used?							
d)	Was the correct method used?							
e)	Were appropriate reporting limits achieved?				50-8 high			
f)	Were any sample dilutions noted?		- Lander		<u>U</u>			
g)	Were any matrix problems noted?	d			Surrogate recovering for 1,2 Arthoropethicus - Chi Outside			
Revised	d May 2004				control limits in 5v-2 due to high Level hydrocarbon Page 1 of 3 matrix interference			

Blanks		YES	NO	NA	COMMENTS
a)	Were analytes detected in the method blank(s)?		Ø		
b)	Were analytes detected in the field blank(s)?				
c)	Were analytes detected in the equipment blank(s)?				See notes, on next page
d)	Were analytes detected in the trip blank(s)?				
Labora	tory Control Sample (LCS)	YES	NO	NA	COMMENTS
a)	Was a LCS analyzed once per SDG?				Marie
b)	Were the proper compounds included in the LCS?				- A STATE OF THE S
c)	Was the LCS accuracy criteria met?		9		Crs-1,3-Dichloropropene,
					Hexachlorobut adiene Naphthalene outside contest
Duplica		YES	NO .	NA NA	COMMENTS
a)	Were field duplicates collected (note original and du	uplicate s			
b)	Were field dup precision criteria met (note RPD)?				
c)	Were lab duplicates analyzed (note original and du	plicate sa		r==1	
I)	W 11 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2				-
d)	Were lab dup. precision criteria met (note RPD)?				The state of the s
Blind S	tandards	YES	NO	NA /	COMMENTS
a)	Was a blind standard used (indicate name,				
	compounds included and concentrations)?		···		
b)	Was the %D within control limits?			To Receive	
Matrix	Spike/Matrix Spike Duplicate (MS/MSD)	YES	NO	NA _	COMMENTS
a)	Was MS accuracy criteria met?				
	Recovery could not be calculated since sample	П	r=1	C assurance	
<b>b</b> )	contained high concentration of analyte?			Same and the same	
b)	Was MSD accuracy criteria met?  Recovery could not be calculated since sample		L.	List	
	contained high concentration of analyte?				
c)	Were MS/MSD precision criteria met?				
Surrog	ate Spikes	YES	NO	NA	COMMENTS
a)	Were surrogate recoveries within control limits?		V		1/2 Dichloroettoanna - d4 in 5v-8
b)	Were surrogate recoveries not calculated due to dilutions?				Recovered 141gh
Comm	ents/Notes:				
				, ,,	

#### Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
5v-8	Acetone		7	Defection in Eguip. Blank
\	D-Proposol		)	1
	Carbon Disulficte			
	2-Bulanone		TO STOCK STO	
54-9	Ethanol		- Landy Topper	
	Acetone		e de la constante de la consta	
\	Carbon Disulfide	·	a property of the second	
V	2-Butanone		DESCRIPTION OF THE PROPERTY OF	
54-10	Freendl			
	Ethanol		44-46	
	Acetone		A Company	
i i	2-Propanol	···	o Change	William Committee of the Committee of th
	Carbon Disviside			
V	2-Butanone		V	<u> </u>

Signature:	AMA	LILLA	Date:	1/12/07	



#### 0612239B **WORK ORDER #:**

Work Order Summary

CLIENT:

Mr. Mark Haddock

BILL TO: Mr. Mark Haddock

Golder Associates, Inc. 820 South Main Street

St. Charles, MO 63301

Golder Associates, Inc. 820 South Main Street

Suite 100

Suite 100

St. Charles, MO 63301

PHONE: FAX:

(636)-724-9191 (636-724-9323

**P.O.** # 043-9670

PROJECT#

043-9670 Solutia Soil Vapor Sampling

DATE RECEIVED:

12/12/2006

CONTACT:

Event Brandon Dunmore

DATE COMPLETED: 01/09/2007

			RECEIPT
FRACTION #	<u>NAME</u>	<u>TEST</u>	<u>VAC,/PRES.</u>
01A	SV-8 Village Hall	Modified TO-15	3.0 "Hg
02A	SV-9 Village Hall	Modified TO-15	2.5 "Hg
03A	SV-10 Village Hall	Modified TO-15	2.5 "Hg
04A	Lab Blank	Modified TO-15	NA
05A	CCV	Modified TO-15	NA
06A	LCS	Modified TO-15	NA

CERTIFIED BY:

Senda S. Fruman

01/09/07 DATE:

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004

NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,

Accreditation number: E87680, Effective date: 07/01/06, Expiration date: 06/30/07

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630 (916) 985-1000 (800) 985-5955 FAX (916) 985-1020



# LABORATORY NARRATIVE Modified TO-15 Golder Associates, Inc. Workorder# 0612239B

Three 6 Liter Summa Special (100% Certified) samples were received on December 12, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 1.0 liter of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

Requirement	TO-15	ATL Modifications
ICAL %RSD acceptance criteria	+- 30% RSD with 2 compounds allowed out to < 40% RSD	30% RSD with 4 compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers</p
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request

#### **Receiving Notes**

There were no receiving discrepancies.

#### **Analytical Notes**

The reported CCV/LCS for each daily batch may be derived from more than one analytical file due to the client's request for non-standard compounds.

Non-standard compounds may have different acceptance criteria than the standard TO-14A/TO-15 compound list as per contract or verbal agreement.

All Quality Control Limit failures and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page. Target compound non-detects in the samples that are associated with high bias in QC analyses have not been flagged.

The recovery of surrogate 1,2-Dichloroethane-d4 in sample SV-8 Village Hall was outside control limits due to high level hydrocarbon matrix interference. Data is reported as qualified.



The reported result for Cumene in sample SV-9 Village Hall may be biased high due to co-elution with a non target compound with similar characteristic ions.

#### **Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

- B Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
  - J Estimated value.
  - E Exceeds instrument calibration range.
  - S Saturated peak.
  - Q Exceeds quality control limits.
  - U Compound analyzed for but not detected above the reporting limit.
  - UJ- Non-detected compound associated with low bias in the CCV
  - N The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



### Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

#### Client Sample ID: SV-8 Village Hall

Lab ID#: 0612239B-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Chloromethane	0 50	0 54	1.0	11
Vinyl Chloride	0.50	0.51	1.3	1.3
1,3-Butadiene	0 50	1.3	1.1	3.0
Ethanol	2.5	35	4.7	66
Acetone	2.5	37 5	5.9	88
2-Propanol	2.5	2.8	6.1	7.0
Carbon Disulfide	2.5	8.9 7	77	28
Methylene Chloride	0.99	44	3.4	150
Hexane	0.50	140	1.8	510
2-Butanone (Methyl Ethyl Ketone)	0.50	9.97	1.5	29
Cyclohexane	0.50	160	1.7	560
Benzene	0.50	4.8	16	15
Heptane	0.50	18	20	72
Toluene	0.50	35	19	130
Tetrachloroethene	0.50	0.91	3.4	6.2
Chlorobenzene	0 50	140	2.3	630
Ethyl Benzene	0 50	2.9	2.2	13
m,p-Xylene	0 50	6.0	2.2	26
o-Xylene	0.50	2.9	2.2	13
Styrene	0.50	0.64	2.1	2.7
Cumene	0.50	14	2.4	7 1
Propylbenzene	0 50	0.79	2 4	3 9
4-Ethyltoluene	0.50	1.3	2.4	6 5
1,3,5-Trimethylbenzene	0.50	0.83	2 4	4.1
1,2,4-Trimethylbenzene	0.50	2.8	2.4	14
1,3-Dichlorobenzene	0.50	1 5	3.0	8 9
1,4-Dichlorobenzene	0.50	7.5	30	45
1,2-Dichlorobenzene	0.50	0.61	30	3.6

#### Client Sample ID: SV-9 Village Hall

Lab ID#: 0612239B-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.15	0.48	0.72	2.4
Chloromethane	0 15	0.44	0.30	092
1.3-Butadiene	0 15	4.3	0 32	96
Freon 11	0 15	0 28	0.82	1.6



### Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

#### Client Sample ID: SV-9 Village Hall

ab ID#: 0612239B-02A				
Ethanol	0 73	21 🏅	1.4	3.9
Acetone	0.73	43 J	17	100
Carbon Disulfide	0.73	5.6	2.3	18
Methylene Chloride	0 29	1.7	1 0	5 8
Hexane	0.15	9.4	0.51	33
2-Butanone (Methyl Ethyl Ketone)	0.15	7.9 J	0.43	23
Cyclohexane	0.15	3.8	0.50	13
Benzene	0.15	7 6	0 47	24
Heptane	0.15	50	0 60	20
Toluene	0.15	21	0.55	80
Tetrachloroethene	0.15	1.2	0.99	8 0
Chlorobenzene	0 15	0.28	0.67	1.3
Ethyl Benzene	0 15	2.9	0.63	12
m,p-Xylene	0.15	9.7	0 63	42
o-Xylene	0.15	3.3	0.63	14
Styrene	0.15	0.66	0.62	2.8
Cumene	0.15	0.40	072	20
Propylbenzene	0.15	0 47	0.72	2.3
4-Ethyltoluene	0.15	2.1	0.72	10
1,3,5-Trimethylbenzene	0.15	1.0	0.72	5.0
1,2,4-Trimethylbenzene	0.15	3.2	0.72	16
1,4-Dichlorobenzene	0.15	0.16	0 88	0 94
1,2-Dichlorobenzene	0 15	0.44	0 88	27

#### Client Sample 1D: SV-10 Village Hall

Lab ID#: 0612239B-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.15	0.56	0 72	2.8
Chloromethane	0.15	0.41	0 30	0.84
1.3-Butadiene	0.15	3.8	0.32	8.4
Freon 11	0.15	0.38 🔭	0.82	2.1
Ethanol	0.73	4.2 🛣	1.4	7.9
Freon 113	0.15	0.15	11	1.2
Acetone	0.73	39 J	1.7	92
2-Propanol	0.73	0.93 🎵	1.8	2.3
Carbon Disulfide	0.73	71	2.3	22
Methylene Chloride	0.29	1.7	1.0	5.9
Hexane	0.15	6.0	0.51	21



# Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

#### Client Sample ID: SV-10 Village Hall

Lab ID#: 0612239B-03A				
2-Butanone (Methyl Ethyl Ketone)	0.15	3.6 <b>T</b>	0 43	11
Cyclohexane	0 15	1.0	0.50	3 6
Carbon Tetrachloride	0.15	0 15 J	0 92	0 96 J
Benzene	0.15	7.4	0 47	24
Heptane	0.15	5.5	0.60	22
Toluene	0 15	23	0.55	86
Tetrachloroethene	0 15	1.6	0.99	11
Ethyl Benzene	0 15	25	0 63	11
m,p-Xylene	0.15	8.9	0.63	39
o-Xylene	0.15	3.0	0.63	13
Styrene	0 15	0.65	0 62	28
Cumene	0.15	0.29	0 72	1 4
Propylbenzene	0.15	0.56	0.72	2.7
4-Ethyltoluene	0 15	2.7	0.72	13
1,3,5-Trimethylbenzene	0.15	0.86	0.72	4.2
1,2,4-Trimethylbenzene	0.15	3 2	0.72	16



#### Client Sample ID: SV-8 Village Hall Lab ID#: 0612239B-01A

File Name: Dil. Factor:	7122917 4.97		Date of Collection: 12/9/06 Date of Analysis: 12/30/06 03:39 AM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)	
Freon 12	0 50	Not Detected	24	Not Detected	
Freon 114	0 50	Not Detected	3.5	Not Detected	
Chloromethane	0 50	0.54	1.0	1 1	
Vinyl Chloride	0.50	0.51	1.3	13	
1,3-Butadiene	0.50	1.3	1.1	3.0	
Bromomethane	0.50	Not Detected	19	Not Detected	
Chloroethane	0 50	Not Detected	13	Not Detected	
Freon 11	0.50	Not Detected	2.8	Not Detected	
Ethanol	2.5	35	4.7	66	
Freon 113	0.50	Not Detected	3.8	Not Detected	
1,1-Dichloroethene	0.50	Not Detected	20	Not Detected	
Acetone	25	37	5.9	88	
2-Propanol	2.5	2.8	6.1	7 0	
Carbon Disulfide	2.5	8.9	7.7	28	
Methylene Chloride	0.99	44	3.4	150	
Methyl tert-butyl ether	0.50	Not Detected	18	Not Detected	
trans-1,2-Dichloroethene	0 50	Not Detected	2.0	Not Detected	
Hexane	0.50	140	1.8	510	
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected	
2-Butanone (Methyl Ethyl Ketone)	0.50	9.9	1.5	29	
cis-1,2-Dichloroethene	0.50	Not Detected	20	Not Detected	
Tetrahydrofuran	2.5	Not Detected	7 3	Not Detected	
Chloroform	0.50	Not Detected	24	Not Detected	
1,1,1-Trichloroethane	0.50	Not Detected	27	Not Detected	
Cyclohexane	0.50	160	1.7	560	
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected	
Benzene	0.50	4.8	1.6	15	
Heptane	0.50	18	20	72	
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected	
1,4-Dioxane	0.50	Not Detected	1.8	Not Detected	
Bromodichloromethane	0 50	Not Detected	33	Not Detected	
	0.50	Not Detected	22	Not Detected	
cis-1,3-Dichloropropene 4-Methyl-2-pentanone	0.50	Not Detected	2 0	Not Detected	
Toluene	0 50	35	19	130	
trans-1,3-Dichloropropene	0.50	Not Detected	2.2	Not Detected	
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected	
Tetrachloroethene	0.50	0 91	3 4	6.2	
2-Hexanone	25	Not Detected	10	Not Detected	
Dibromochloromethane	0 50	Not Detected	4.2	Not Detected	



#### Client Sample ID: SV-8 Village Hall Lab ID#: 0612239B-01A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name; Dil. Factor:	7122917 4.97		Date of Collection: Date of Analysis: 1	기념 교육이 살아 없는 그 얼마 아버리는 시험을 다 했다.
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt Limit (uG/m3)	Amount (uG/m3)
Chlorobenzene	0.50	140	23	630
Ethyl Benzene	0.50	2.9	2.2	13
m,p-Xylene	0.50	60	22	26
o-Xylene	0.50	2.9	2 2	13
Styrene	0.50	0.64	2.1	2.7
Bromoform	0.50	Not Detected	5.1	Not Detected
Cumene	0.50	1 4	2 4	7.1
Propylbenzene	0.50	0 79	24	3.9
4-Ethyltoluene	0.50	13	24	6.5
1,3,5-Trimethylbenzene	0.50	0.83	2.4	4.1
1,2,4-Trimethylbenzene	0.50	28	24	14
1,3-Dichlorobenzene	0.50	1.5	30	89
1,4-Dichlorobenzene	0.50	7.5	3.0	45
alpha-Chlorotoluene	050	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	0.61	3.0	3.6
1.2.4-Trichlorobenzene	2.5	Not Detected	18	Not Detected
Hexachlorobutadiene	25	Not Detected	26	Not Detected
Naphthalene	2 5	Not Detected	13	Not Detected
1,1,1,2-Tetrachloroethane	2 5	Not Detected	17	Not Detected
1,2,3-Trichloropropane	2.5	Not Detected	15	Not Detected
Acetonitrile	25	Not Detected	42	Not Detected
Butylbenzene	2.5	Not Detected	14	Not Detected
Dibromomethane	2 5	Not Detected	18	Not Detected
Ethyl Acetate	2.5	Not Detected	9.0	Not Detected
sec-Butylbenzene	2.5	Not Detected	14	Not Detected
Vinyl Acetate	99	Not Detected	35	Not Detected

Q = Exceeds Quality Control limits of 70% to 130%, due to matrix effects. Container Type: 6 Liter Summa Special (100% Certified)

Contained Type: 0 2nd Camma openia (1)	, , , , , , , , , , , , , , , , , , , ,	Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	228 Q	70-130	
Toluene-d8	101	70-130	
4-Bromofluorobenzene	98	70-130	



#### Client Sample ID: SV-9 Village Hall Lab ID#: 0612239B-02A

File Name: Dil. Factor:	7122918 1.46		Date of Collection: Date of Analysis: 1	
	Rot. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(uG/m3)	(uG/m3)
Freon 12	0 15	0 48	0 72	2.4
Freon 114	0.15	Not Detected	1.0	Not Detected
Chloromethane	0 15	0.44	0.30	0 92
Vinyl Chloride	0.15	Not Detected	0 37	Not Detected
1,3-Butadiene	0.15	4.3	0.32	9.6
Bromomethane	0.15	Not Detected	0 57	Not Detected
Chloroethane	0.15	Not Detected	0 38	Not Detected
Freon 11	0.15	0.28	0.82	16
Ethanol	0 73	2 1	1 4	3.9
Freon 113	0.15	Not Detected	1.1	Not Detected
1,1-Dichloroethene	0 15	Not Detected	0 58	Not Detected
Acetone	0.73	43	17	100
2-Propanol	0.73	Not Detected	18	Not Detected
Carbon Disulfide	0.73	5.6	23	18
Methylene Chloride	0.29	1.7	1.0	5.8
Methyl tert-butyl ether	0 15	Not Detected	0 53	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0 58	Not Detected
Hexane	0 15	9.4	0.51	33
1,1-Dichloroethane	0.15	Not Detected	0.59	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.15	7.9	0.43	23
cis-1,2-Dichloroethene	0.15	Not Detected	0 58	Not Detected
Tetrahydrofuran	0.73	Not Detected	2.2	Not Detected
Chloroform	0.15	Not Detected	0.71	Not Detected
1,1,1-Trichloroethane	0 15	Not Detected	0.80	Not Detected
Cyclohexane	0.15	3.8	0.50	13
Carbon Tetrachloride	0 15	Not Detected	0 92	Not Detected
Benzene	0.15	7.6	0.47	24
Heptane	0.15	5.0	0 60	20
1,2-Dichloropropane	0.15	Not Detected	0 67	Not Detected
1,4-Dioxane	0.15	Not Detected	0.53	Not Detected
Bromodichloromethane	0.15	Not Detected	0.98	Not Detected
cis-1,3-Dichloropropene	0.15	Not Detected	0.66	Not Detected
4-Methyl-2-pentanone	0.15	Not Detected	0.60	Not Detected
Toluene	0.15	21	0.55	80
trans-1,3-Dichloropropene	0.15	Not Detected	0.66	Not Detected
1,1,2-Trichloroethane	0 15	Not Detected	0.80	Not Detected
Tetrachloroethene	015	1.2	0.99	8.0
2-Hexanone	0.73	Not Detected	3.0	Not Detected
Dibromochloromethane	0.15	Not Detected	1.2	Not Detected



#### Client Sample ID: SV-9 Village Hall Lab ID#: 0612239B-02A

File Name: Dil. Factor:	7122918 1.46		Date of Collection: Date of Analysis: 1	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Chlorobenzene	0 15	0.28	0 67	1.3
Ethyl Benzene	0 15	2.9	0 63	12
m,p-Xylene	0 15	9.7	0.63	42
o-Xylene	0.15	3.3	0 63	14
Styrene	0.15	0.66	0.62	2.8
Bromoform	0 15	Not Detected	15	Not Detected
Cumene	0.15	0 40	0 72	20
Propylbenzene	0.15	047	0 72	2.3
4-Ethyltoluene	0.15	2.1	0 72	10
1,3,5-Trimethylbenzene	0.15	1.0	0.72	5.0
1,2,4-Trimethylbenzene	0 15	3.2	0 72	16
1,3-Dichlorobenzene	0 15	Not Detected	0 88	Not Detected
1,4-Dichlorobenzene	0 15	0.16	0.88	0.94
alpha-Chlorotoluene	0.15	Not Detected	0.76	Not Detected
1,2-Dichlorobenzene	0.15	0.44	0.88	2.7
1,2,4-Trichlorobenzene	0.73	Not Detected	5.4	Not Detected
Hexachlorobutadiene	0.73	Not Detected	7.8	Not Detected
Naphthalene	0.73	Not Detected	3.8	Not Detected
1,1,2-Tetrachloroethane	0.73	Not Detected	5.0	Not Detected
1,2,3-Trichloropropane	0.73	Not Detected	4.4	Not Detected
Acetonitrile	0.73	Not Detected	1.2	Not Detected
Butylbenzene	0.73	Not Detected	4.0	Not Detected
Dibromomethane	0.73	Not Detected	5 2	Not Detected
Ethyl Acetate	0.73	Not Detected	26	Not Detected
sec-Butylbenzene	0.73	Not Detected	4.0	Not Detected
Vinyl Acetate	29	Not Detected	10	Not Detected
Container Type: 6 Liter Summa	Special (100% Certified)	WBanawani		Method Limits
Surrogates		%Recovery		
1,2-Dichloroethane-d4		113		70-130
Toluene-d8		100		70-130
4-Bromofluorobenzene		99		70-130



#### Client Sample ID: SV-10 Village Hall Lab ID#: 0612239B-03A

File Name: Dil. Factor:	7122919 1.46		Date of Collection: Date of Analysis: 1	
	Rot. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(uG/m3)	(uG/m3)
Freon 12	0.15	0.56	0.72	28
Freon 114	0.15	Not Detected	1.0	Not Detected
Chloromethane	0.15	0.41	0.30	0.84
Vinyl Chloride	0.15	Not Detected	0.37	Not Detected
1,3-Butadiene	0.15	3.8	0.32	8.4
Bromomethane	0 15	Not Detected	0 57	Not Detected
Chloroethane	0 15	Not Detected	0 38	Not Detected
Freon 11	0 15	0.38	0 82	2 1
Ethanol	0 73	42	1 4	7 9
Freon 113	0.15	0.15	1.1	1.2
1,1-Dichloroethene	0 15	Not Detected	0 58	Not Detected
Acetone	0 73	39	17	92
2-Propanol	0 73	0.93	18	2.3
Carbon Disulfide	0.73	7 1	2.3	22
Methylene Chloride	0.29	1.7	1.0	5.9
Wethyl tert-butyl ether	0.15	Not Detected	0 53	Not Detected
rans-1,2-Dichloroethene	0 15	Not Detected	0 58	Not Detected
Hexane	0 15	6.0	0.51	21
1,1-Dichloroethane	0 15	Not Detected	0 59	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.15	3.6	0.43	11
cis-1,2-Dichloroethene	0.15	Not Detected	0.58	Not Detected
Tetrahydrofuran	0.73	Not Detected	2.2	Not Detected
Chloroform	0.15	Not Detected	0.71	Not Detected
1,1,1-Trichloroethane	0.15	Not Detected	0.80	Not Detected
Cyclohexane	0.15	1.0	0.50	3.6
Carbon Tetrachloride	0.15	0 15 J	0.92	0 96 J
Benzene	0 15	7.4	0.47	24
Heptane	0 15	5.5	0 60	22
•	0.15	Not Detected	0 67	Not Detected
1,2-Dichloropropane 1,4-Dioxane	0.15	Not Detected	0 53	Not Detected
Bromodichloromethane	0.15	Not Detected	0.98	Not Detected
	0.15	Not Detected	0.66	Not Detected
cis-1,3-Dichloropropene	0 15	Not Detected	0 60	Not Detected
4-Methyl-2-pentanone Toluene	0 15	23	0.55	86
trans-1,3-Dichloropropene	0.15	Not Detected	0.66	Not Detected
1,1,2-Trichloroethane	0.15	Not Detected	0 80	Not Detected
T, 1,2-111chloroethane Tetrachloroethene	0.15	1.6	0.99	11
2-Hexanone	0.73	Not Detected	3.0	Not Detected
Dibromochloromethane	0.15	Not Detected	1.2	Not Detected



#### Client Sample ID: SV-10 Village Hall Lab ID#: 0612239B-03A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	7122919 1.46	Property of the second	Date of Collection: Date of Analysis: 1	: [18] [18] [18] [18] 10 [18] 12 [18] 12 [18] 14 [18] 14 [18] 15 [18] 15 [18] 15 [18] 15 [18] 15 [18] 15 [18]
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Chlorobenzene	0.15	Not Detected	0 67	Not Detected
Ethyl Benzene	0 15	2.5	0 63	11
m,p-Xylene	0.15	8 9	0 63	39
o-Xylene	0 15	3 0	0.63	13
Styrene	0.15	0.65	0.62	2.8
Bromoform	0 15	Not Detected	15	Not Detected
Cumene	0.15	0.29	0 72	1 4
Propylbenzene	0.15	0.56	0 72	2.7
4-Ethyltoluene	0.15	2.7	0 72	13
1,3,5-Trimethylbenzene	0.15	0.86	0.72	4.2
1,2,4-Trimethylbenzene	0 15	3 2	0 72	16
1.3-Dichlorobenzene	0 15	Not Detected	0.88	Not Detected
1,4-Dichlorobenzene	0 15	Not Detected	0.88	Not Detected
alpha-Chlorotoluene	0 15	Not Detected	0 76	Not Detected
1,2-Dichlorobenzene	0.15	Not Detected	0.88	Not Detected
1,2,4-Trichlorobenzene	0.73	Not Detected	5.4	Not Detected
Hexachlorobutadiene	0.73	Not Detected	7.8	Not Detected
Naphthalene	0.73	Not Detected	3.8	Not Detected
1,1,1,2-Tetrachloroethane	0.73	Not Detected	5 0	Not Detected
1,2,3-Trichloropropane	0.73	Not Detected	4.4	Not Detected
Acetonitrile	0.73	Not Detected	12	Not Detected
Butylbenzene	0.73	Not Detected	40	Not Detected
Dibromomethane	0.73	Not Detected	52	Not Detected
Ethyl Acetate	0.73	Not Detected	2.6	Not Detected
sec-Butylbenzene	0.73	Not Detected	4.0	Not Detected
Vinyl Acetate	2.9	Not Detected	10	Not Detected

J = Estimated value due to bias in the CCV.

Container Type: 6 Liter Summa Special (100% Certified)

( )	,	Method
Surrogates	%Recovery	Limits
1.2-Dichloroethane-d4	114	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	97	70-130



#### Client Sample ID: Lab Blank Lab ID#: 0612239B-04A

File Name: Dil. Factor:	7122916 1.00		Date of Collection: I Date of Analysis: 1	
	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(uG/m3)	(uG/m3)
Freon 12	0 10	Not Detected	0 49	Not Detected
Freon 114	0.10	Not Detected	0.70	Not Detected
Chloromethane	0 10	Not Detected	0 21	Not Detected
Vinyl Chloride	0 10	Not Detected	0 26	Not Detected
1,3-Butadiene	0.10	Not Detected	0.22	Not Detected
Bromomethane	0 10	Not Detected	0 39	Not Detected
Chloroethane	0 10	Not Detected	0.26	Not Detected
Freon 11	0.10	Not Detected	0.56	Not Detected
Ethanol	0 50	Not Detected	0.94	Not Detected
Freon 113	0.10	Not Detected	0.77	Not Detected
1,1-Dichloroethene	0.10	Not Detected	0 40	Not Detected
Acetone	0.50	Not Detected	1.2	Not Detected
2-Propanol	0.50	Not Detected	1.2	Not Detected
Carbon Disulfide	0.50	Not Detected	16	Not Detected
Methylene Chloride	0.20	Not Detected	0.69	Not Detected
Methyl tert-butyl ether	0.10	Not Detected	0.36	Not Detected
trans-1,2-Dichloroethene	0 10	Not Detected	0.40	Not Detected
Hexane	0.10	Not Detected	0 35	Not Detected
1,1-Dichloroethane	0 10	Not Detected	0 40	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.10	Not Detected	0.29	Not Detected
cis-1,2-Dichloroethene	0 10	Not Detected	0 40	Not Detected
Tetrahydrofuran	0 50	Not Detected	1.5	Not Detected
Chloroform	0 10	Not Detected	0 49	Not Detected
1,1,1-Trichloroethane	0 10	Not Detected	0.54	Not Detected
Cyclohexane	0.10	Not Detected	0.34	Not Detected
Carbon Tetrachloride	0 10	Not Detected	0.63	Not Detected
Benzene	0.10	Not Detected	0.32	Not Detected
Heptane	0.10	Not Detected	0.41	Not Detected
1,2-Dichloropropane	0 10	Not Detected	0.46	Not Detected
1,4-Dioxane	0.10	Not Detected	0.36	Not Detected
Bromodichloromethane	0 10	Not Detected	0 67	Not Detected
cis-1,3-Dichloropropene	0 10	Not Detected	0 45	Not Detected
4-Methyl-2-pentanone	0 10	Not Detected	0 41	Not Detected
Toluene	0 10	Not Detected	0.38	Not Detected
trans-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
1,1,2-Trichloroethane	0.10	Not Detected	0 54	Not Detected
Tetrachloroethene	0.10	Not Detected	0.68	Not Detected
2-Hexanone	0.50	Not Detected	20	Not Detected
Dibromochloromethane	0 10	Not Detected	0.85	Not Detected



#### Client Sample ID: Lab Blank Lab ID#: 0612239B-04A

File Name: Dil. Factor:	7122916 1.00		Date of Collection: I Date of Analysis: 1	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Chlorobenzene	0.10	Not Detected	0 46	Not Detected
Ethyl Benzene	0.10	Not Detected	0.43	Not Detected
m,p-Xylene	0.10	Not Detected	0.43	Not Detected
o-Xylene	0.10	Not Detected	0 43	Not Detected
Styrene	0.10	Not Detected	0.42	Not Detected
Bromoform	0 10	Not Detected	1.0	Not Detected
Cumene	0 10	Not Detected	0.49	Not Detected
Propylbenzene	0.10	Not Detected	0.49	Not Detected
4-Ethyltoluene	0.10	Not Detected	0.49	Not Detected
1,3,5-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1.2.4-Trimethylbenzene	0 10	Not Detected	0 49	Not Detected
1,3-Dichlorobenzene	0 10	Not Detected	0 60	Not Detected
1,4-Dichlorobenzene	0.10	Not Detected	0 60	Not Detected
alpha-Chlorotoluene	0.10	Not Detected	0 52	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1.2.4-Trichlorobenzene	0.50	Not Detected	37	Not Detected
Hexachlorobutadiene	0.50	Not Detected	5.3	Not Detected
Naphthalene	0 50	Not Detected	2.6	Not Detected
1,1,1,2-Tetrachloroethane	0.50	Not Detected	3 4	Not Detected
1.2.3-Trichloropropane	0.50	Not Detected	3.0	Not Detected
Acetonitrile	0.50	Not Detected	0 84	Not Detected
Butylbenzene	0.50	Not Detected	2.7	Not Detected
Dibromomethane	0 50	Not Detected	36	Not Detected
Ethyl Acetate	0 50	Not Detected	18	Not Detected
sec-Butylbenzene	0.50	Not Detected	2.7	Not Detected
Vinyl Acetate	20	Not Detected	7.0	Not Detected
Container Type: NA - Not Applicable				
				Method
Surrogates		%Recovery_		Limits
1.2-Dichloroethane-d4		114		70-130
Toluene-d8		99		70-130
4-Bromofluorobenzene		99		70-130



#### Client Sample ID: CCV Lab ID#: 0612239B-05A

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Compound	%Recovery
Freon 12	116
Freon 114	98
Chloromethane	99
Vinyl Chloride	110
1,3-Butadiene	103
Bromomethane	109
Chloroethane	112
Freon 11	117
Ethanol	100
Freon 113	117
1,1-Dichloroethene	114
Acetone	107
2-Propanol	102
Carbon Disulfide	109
Methylene Chloride	104
Methyl tert-butyl ether	121
trans-1,2-Dichloroethene	109
Hexane	101
1,1-Dichloroethane	109
2-Butanone (Methyl Ethyl Ketone)	95
cis-1,2-Dichloroethene	108
Tetrahydrofuran	94
Chloroform	122
1,1,1-Trichloroethane	129
Cyclohexane	107
Carbon Tetrachloride	133 Q
Benzene	103
	100
Heptane 1,2-Dichloropropane	101
1,4-Dioxane	108
Bromodichloromethane	122
	113
cis-1,3-Dichloropropene	104
4-Methyl-2-pentanone	107
Toluene	122
trans-1,3-Dichloropropene	110
1,1,2-Trichloroethane	109
Tetrachioroethene	105
2-Hexanone	122
Dibromochloromethane	1 6 6



#### Client Sample ID: CCV Lab ID#: 0612239B-05A

#### MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7122902	Date of Collection: NA
Dil, Factor:	1.00	Date of Analysis: 12/29/06 11:28 AM

Compound	%Recovery
Chlorobenzene	105
Ethyl Benzene	108
m,p-Xylene	99
o-Xylene	106
Styrene	102
Bromoform	122
Cumene	105
Propylbenzene	102
4-Ethyltoluene	100
1,3,5-Trimethylbenzene	107
1,2,4-Trimethylbenzene	107
1,3-Dichlorobenzene	103
1,4-Dichlorobenzene	102
alpha-Chlorotoluene	102
1,2-Dichlorobenzene	104
1,2,4-Trichlorobenzene	125
Hexachlorobutadiene	151 Q
Naphthalene	143 Q
1,1,1,2-Tetrachloroethane	100
1,2,3-Trichloropropane	99
Acetonitrile	90
Butylbenzene	104
Dibromomethane	94
Ethyl Acetate	94
sec-Butylbenzene	103
Vinyl Acetate	104

### Q = Exceeds Quality Control limits. Container Type: NA - Not Applicable

Container Type. NA - Not Applicable		Method Limits
Surrogates	%Recovery	
1.2-Dichloroethane-d4	119	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130



#### Client Sample ID: LCS Lab ID#: 0612239B-06A

ile Name:	7122906 Date of Collection: NA
[경기 : 14] 하기를 내는 것 같아요요. 그는	' ' <b></b>
il. Factor:	1.00 Date of Analysis: 12/29/06 03:33 PM

Compound	%Recovery
Freon 12	110
Freon 114	90
Chloromethane	93
Vinyl Chloride	102
1,3-Butadiene	110
Bromomethane	102
Chloroethane	80
Freon 11	130
Ethanol	105
Freon 113	110
1,1-Dichloroethene	107
Acetone	113
2-Propanol	105
Carbon Disulfide	114
Methylene Chloride	98
Methyl tert-butyl ether	72
trans-1,2-Dichloroethene	114
Hexane	103
1,1-Dichloroethane	101
2-Butanone (Methyl Ethyl Ketone)	98
cis-1,2-Dichloroethene	101
Tetrahydrofuran	97
Chloroform	113
1,1,1-Trichloroethane	119
Cyclohexane	108
Carbon Tetrachloride	123
Benzene	98
Heptane	101
1,2-Dichloropropane	96
1,4-Dioxane	115
Bromodichloromethane	124
cis-1,3-Dichloropropene	68 Q —
4-Methyl-2-pentanone	102
Toluene	101
trans-1,3-Dichloropropene	104
1,1,2-Trichloroethane	105
Tetrachloroethene	108
2-Hexanone	98
Dibromochloromethane	115



#### Client Sample ID: LCS Lab ID#: 0612239B-06A

File Name:         7122906           Dil. Factor:         1.00	Date of Collection: NA Date of Analysis: 12/29/06 03:33 PM
Compound	%Recovery
Chlorobenzene	103
Ethyl Benzene	109
m,p-Xylene	90
o-Xylene	89
Styrene	96
Bromoform	93
Cumene	110
Propylbenzene	110
4-Ethyltoluene	111
1,3,5-Trimethylbenzene	89
1,2,4-Trimethylbenzene	74
1,3-Dichlorobenzene	106
1,4-Dichlorobenzene	106
alpha-Chlorotoluene	121
1,2-Dichlorobenzene	108
1,2,4-Trichlorobenzene	111
Hexachlorobutadiene	140 Q
Naphthalene	161 Q
1,1,1,2-Tetrachloroethane	Not Spiked
1,2,3-Trichloropropane	Not Spiked
Acetonitrile	Not Spiked
Butylbenzene	Not Spiked
Dibromomethane	Not Spiked
Ethyl Acetate	Not Spiked
sec-Butylbenzene	Not Spiked
Vinyl Acetate	101
Q = Exceeds Quality Control limits	
Container Type: NA - Not Applicable	
	Method
Surrogates	%Recovery Limits
1,2-Dichloroethane-d4	117 70-130
Toluene-d8	100 70-130
4-Bromofluorobenzene	103 70-130